A manual of psychological medicine : containing the lunacy laws, the nosology, aetiology, statistics, description, diagnosis, pathology, and treatment of insanity : with an appendix of cases / by John Charles Bucknill and by Daniel Hack Tuke.

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Bucknill, John Charles, 1817-1897.
Tuke, Daniel Hack, 1827-1895.
Royal College of Physicians of Edinburgh

Publication/Creation

London : J. & A. Churchill, 1874.

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OF

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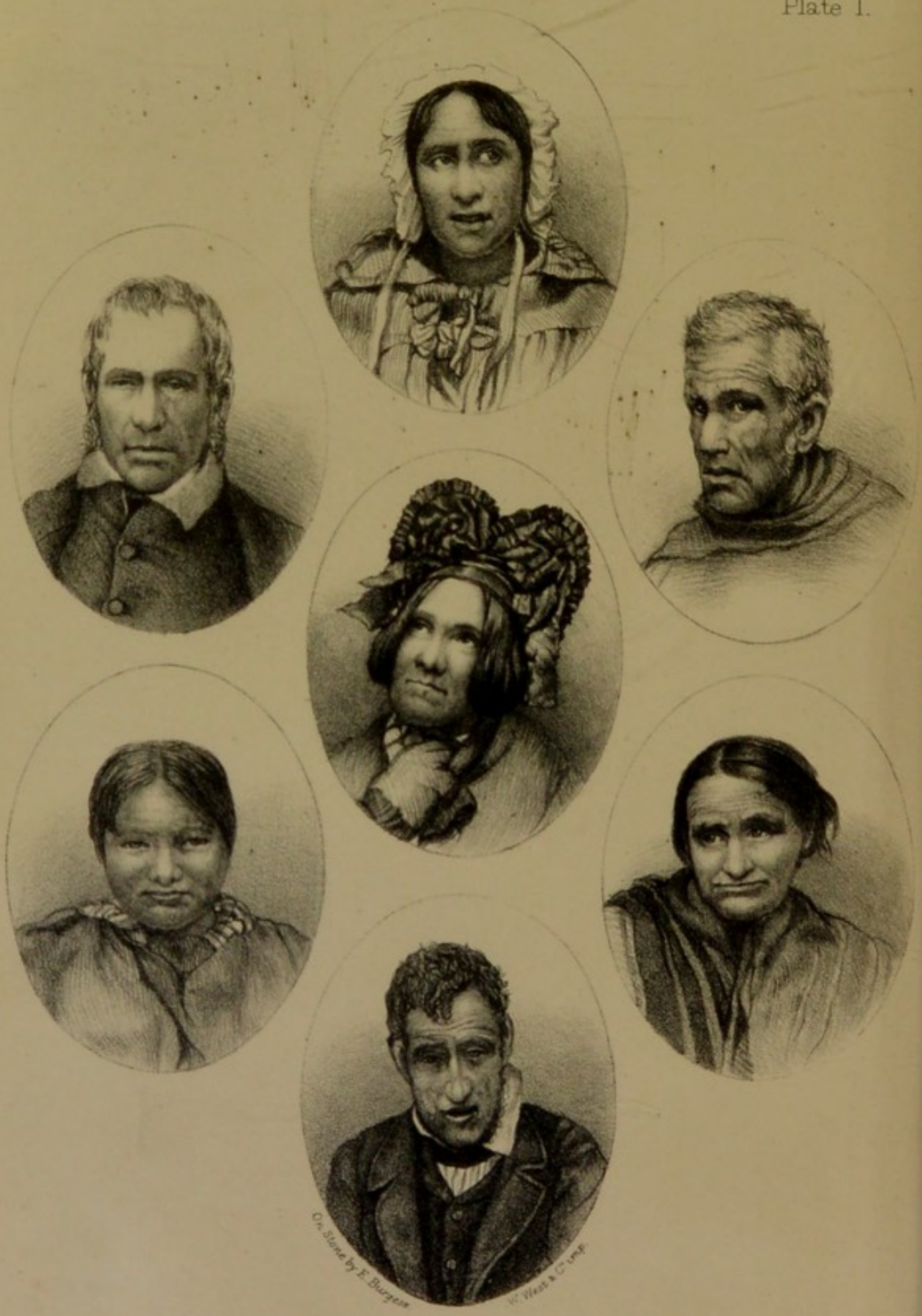

TYPES OF INSANITY,

FROM PHOTOGRAPHS TAKEN IN THE DEVON COUNTY LUNATIC ASYLUM.

For Description see the first seven Cases in the Appendix.

A MANUAL

OF

PSYCHOLOGICAL MEDICINE

CONTAINING

THE LUNACY LAWS, THE NOSOLOGY, ÆTIOLOGY, STATISTICS, DESCRIPTION, DIAGNOSIS, PATHOLOGY, AND TREATMENT

OF

INSANITY.

With an Appendix of Cases.

BY

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LORD CHANCELLOR'S VISITOR OF LUNATICS.

AND BY

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THIRD EDITION, REVISED, ILLUSTRATED, AND MUCH ENLARGED.

LONDON:

J. & A. CHURCHILL, NEW BURLINGTON STREET.

1874.

PREFACE

TO THE

FIRST AND SECOND EDITIONS.

The Authors of the following pages have long felt the want of a systematic treatise on Insanity, adapted to the use of students and practitioners in Medicine. Numerous monographs and works on limited portions of Psychological Medicine have appeared of late years. They are of great value to the specialist physician, but they do not meet the oft-repeated inquiry of the student and practitioner,—"To what systematic treatise on Insanity can I refer?" Dr. Prichard's excellent 'Treatise on Insanity' has undoubtedly been the one which hitherto has most nearly afforded the desired information; but it was written a quarter of a century ago, at a time when the Treatment of Insanity bore an aspect entirely different to its present one; and, moreover, it is now out of print.

A knowledge of the nature and treatment of Insanity is now expected of every well-educated man. The India Board require it of all persons to whom medical appointments are given under their new system of competitive examination. It is reasonable to expect that the good example thus set will be followed in other quarters; and a desire to obtain a competent knowledge of this important branch of medical practice has become far more general in the profession than it ever before has been.

The Authors are aware that no amount of reading can render it safe to dispense with a clinical knowledge of mental disease. Their aim has been, to supply a text-book which may serve as a guide in the acquisition of such knowledge, sufficiently elementary to be adapted to the wants of the student, and sufficiently modern in its views and explicit in its teaching to suffice the demands of the practitioner.

How far the Authors have succeeded in their purpose, it remains for their readers to determine; of their shortcomings none can be more sensible than they are themselves.

1858 *and* 1862.

PREFACE

TO THE

THIRD EDITION.

The Authors of this Manual have to explain that the active development of Psychological Medicine during recent years has compelled them to amplify their work. The great principle that Mental Disease depends solely upon cerebral conditions, which was systematically taught in these pages fifteen years ago, has now become so thoroughly established that it is no longer questioned. Its full recognition, however, has been followed by such activity of observation and research that the field of inquiry has been extended in every direction, and at the present time it may truly be said that new opinions, new forms of insanity, and new remedies have been and are being multiplied at a rate which far outstrips the steady march of consolidated knowledge. As the field of inquiry extends, the crop of good results is more difficult to garner. The history of a text-book must follow that of its science. While this is expanding it must enlarge, when this is consolidating it may contract. At the present time Psychological Science is undergoing a most notable process of expansion, and there is no sign that it will ever again be "cribbed, cabined, and confined" by dogmas, either legal or theological, nor any indication that its bounds will be circumscribed by any limits more narrow than man's powers to investigate the secrets of organization. Practically, however,

Psychological Medicine has to teach what is known of Mental Disease and how to deal with it, and to this the Authors have endeavoured to restrict themselves; and while they have felt bound to mention many opinions which are yet under discussion, and many observations which still need verification, they have striven so to present these to the reader that he may be able to distinguish the yet unstable from the solid ground of knowledge.

The Authors have only to add that they have gladly availed themselves of the practical knowledge of Cerebral Histology possessed by one of its most successful investigators, Dr. J. Batty Tuke, of Edinburgh, who is the writer of the histological portion of the chapter on Pathology, and that the authorship of the volume is divided, as before, between Dr. Bucknill and Dr. Daniel Hack Tuke—the chapters on the Lunacy Laws, Classification, Ætiology, Statistics, and Description of the Various Forms of Insanity (from the commencement to page 392), being written by Dr. D. H. Tuke, and the chapters on Diagnosis, Pathology and Treatment, with the Appendix of Cases (from page 392 to page 801), by Dr. Bucknill.*

November, 1873.

* The remarks made at page 432 in defence of certain passages in the last edition against the criticisms of the late Lord Westbury were written and printed before the lamented decease of that great and learned lawyer.

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ERRATA.

Page 30, lines 9 and 14, *for* Μελαγχωλια *read* Μελαγχολια.
„ 50, line 34, *for* Diabetic *read* Diathetic.
„ 86, „ 9, *add* formerly Superintendent of the Worcester Asylum (U.S.).
„ 88, „ 7, *for* our *read* town and.
„ 92, „ 29, *transpose* themselves *to after* escape.
„ 104, „ 15, and page 105, line 3, *for* Northamption *read* Northampton.
„ 119, „ 23, *add* and at large *after* registered.
„ 398, „ 16, *for* over-average *read* over-sanguine.

DESCRIPTION OF THE PLATES.

PLATE I.

(*FRONTISPIECE.*)

For description of this Plate see the Appendix.—P. 775.

PLATE II.

FAMILY OF IDIOTS.

(P. 174.)

For this lithograph we are indebted to Dr. W. A. F. Browne, Dumfries.

PLATES III, IV, V, VI, VII.

(Pp. 312—316.)

Fac-similes of the Handwriting and Specimens of the Composition of the Insane.

It must be remembered that some of these specimens are given, not as necessarily indicative of Insanity, but simply as being written by insane persons, and therefore of interest to the psychologist as such, and useful from the very fact of being well written, in distinguishing them from the writing executed in some other forms of Insanity. Some specimens which, as regards the hand are sane, exhibit more or less insane trains of thought.

PLATE VIII.

A tinted copy of Arndt's plate of a section through the grey matter of the third frontal convolution, taken from Schultz's Archives of Microscopic Anatomy, 1867, vol. iii, p. 476. This plate does not show the full length of the section, as it would be impossible to give it on one page. It is accordingly shortened in its length, all the layers being shown somewhat thinner than they should be.—See p. 613.

PLATE IX.

FIG.

1. Drawn from the injected brain of a rabbit. This specimen was prepared by Dr. Carter, of Cheltenham. × 120. As this drawing is taken from the bottom of a sulcus the white matter is external. (P. 614.)

2. Drawn from a fresh specimen of a cerebral vessel treated with water only. × 300. *a*, So-called hyaline membrane (p. 620); *b*, molecular deposit (p. 621). The individual particles are often larger than shown in this figure; *c*, crystals of hæmatoidin (p. 621). The hypertrophied circular muscular fibres are well shown.

3. Drawn from a chromic acid section of a cerebral convolution. × 300. Showing the longitudinal view of a thickened vessel; *a*, thickened muscular coat; *b*, thickened hyaline membrane or sheath. (P. 620—1).

4. Drawn from an uncoloured chromic acid section of corpus striatum, showing fusiform aneurism, as seen magnified × 120. (P. 622.)

5. Drawn from same specimen, showing walls of aneurism magnified × 300.

6. Amyloid bodies; *a*, on free surface of corpus striatum; *b*, in substance of corpus striatum; from a case of General Paresis. (P. 632.)

A MANUAL

OF

PSYCHOLOGICAL MEDICINE.

CHAPTER I.

LEGAL ENACTMENTS IN REFERENCE TO THE INSANE, INCLUDING THOSE SPECIALLY AFFECTING MEDICAL MEN.

Before we treat of Insanity itself we think it well to give a brief *résumé* of the principal enactments which have passed the legislature for the proper care and protection of the insane.* These are the indications of the interest excited in the public mind on their behalf, and have proved to be themselves the means of deepening and extending that interest. Had they effected no more than the erection of our present County Asylums, the superintendence of which devolves upon a number of able and humane medical psychologists to whom the insane and the public are signally indebted, they would have achieved an enormous amount of good.

In the reign of Edward II. it was enacted that "the King shall have the custody of the lands of natural fools, taking the profits of them without waste or destruction, and shall find them their necessaries, of whose fee soever the lands be holden; and after the death of such idiots he shall render the same to the right heirs, so that such idiots shall not aliene, nor their heirs be disinherited."

* We have derived much assistance from the Introduction to Lumley's 'New Lunacy Acts,' Collinson on 'Lunacy,' and Fry's 'Lunacy Acts.'

It was also enacted that a portion should be "distributed for his soul by the advice of the Ordinary."*

The Vagrant Act, however, passed in the year 1744† may be regarded as containing the earliest provision made in England for the safe custody of lunatics. Two justices were by it authorised to secure any furious or dangerous lunatic, and order such to be locked up, and, if necessary, *chained*. Whatever property he possessed was employed in his maintenance, and his place of settlement determined.

So far back as the year 1763, a committee of the House of Commons investigated the condition of houses in which the insane were confined, and discovered, as might have been expected, their fearfully neglected condition. It was not till ten years later, however, that a bill was prepared by the Lower House to meet the evil; and even this was rejected by the Upper House. In the following year the bill was reintroduced, and then triumphed.‡ It was the first Act passed for the regulation of private asylums and "madhouses." With the exception of public hospitals, houses for the reception of lunatics were now required to be licensed, when situate in London, or within an area of seven miles round the city, by the College of Physicians. In the provinces, and in Wales, this duty was to be performed by the justices at the quarter sessions. Notice of the admission of each patient was to be sent to the College of Physicians, whose licensers were required to visit the houses which they had licensed; while those licensed by the justices were visited by persons appointed by them. A medical certificate was required on the admission of every patient. This Act, which was a step in the right direction, was renewed in 1779,§ and rendered perpetual in 1786.‖

Private asylums for the insane received some attention from Parliament in 1812, in the memorable year 1815, and in 1816, but nothing was accomplished until Lord Ashley and Mr Robert Gordon carried the bill of 1828, by which the Secretary of State was allowed to appoint fifteen Commissioners annually, for the license and visitation of those houses which had been previously licensed by the College of Physicians. They, and the visitors

* 'Lunacy Acts,' by D. P. Fry, Esq., who thinks that the person, goods, and chattels, as well as the lands of the lunatic, are referred to. See p. 147.

† 17 Geo. II, c. 5.

‡ 14 Geo. III, c. 49.

§ 19 Geo. III, c. 15.

‖ 26 Geo. III, c. 91.

appointed by justices, were to make a certain number of visits in the year to these houses. On no pretext were patients to be admitted into them without medical certificates, and all admissions, removals, and deaths were to be reported to the Commissioners. These asylums were to be visited by a medical man, or to have a resident medical officer.

This Act was amended in 1829;* both were revised in 1833,† when the Lord Chancellor was directed to appoint commissioners with a much wider jurisdiction, called "the Metropolitan Commissioners in Lunacy;" and power was given to him, or the Secretary of State, to order the Commissioners to visit asylums for the insane, and report thereon. County Lunatic Asylums were exempted. In an amended form‡ this Act was continued until 1843;§ when, among other provisions, power was granted to the Commissioners to visit county asylums as well as public hospitals for the insane. The Commissioners, accordingly, made a special visit to the asylums in England and Wales, the result of which was the admirable Report of 1844, which contained lamentable evidence of the gross abuses which at that time existed. Bills founded upon this Report, and the suggestions made by the Commissioners, were successfully introduced by Lord Ashley, in 1845, and constitute the important Lunacy Acts of 8, 9 Victoria, cc. 100, 126. The Act having reference to pauper lunatics (c. 126) will be immediately referred to among enactments for this class. The other Act, which relates to licensed houses (c. 100), enacts that eleven Commissioners shall be appointed, five of whom are to be unpaid members, and six paid professional men —(three physicians and two barristers)—to be called Commissioners in Lunacy. The Act of 1853,‖ entitled, "An Act to amend an Act passed in the Ninth Year of Her Majesty, for the Regulation of the Care and Treatment of Lunatics," made further provisions, and to them the reader is referred.

For *pauper lunatics* no other provision was made, after the passing the Vagrant Act in 1744, until sixty-four years afterwards.¶ In the previous year (1807) a Committee of the House of

* 9 Geo. IV, c. 18.

† 2, 3 Wm. IV, c. 107.

‡ 3, 4 Wm. IV, c. 64. Also, 5, 6 Wm. IV, c. 22; 1, 2 Vic. c. 73.

§ 5, 6 Vic. c. 87.

‖ 16, 17 Vic. c. 96. See also 18, 19 Vic. c. 105.

¶ 48 Geo. III, c. 96.

Commons took evidence, in regard to the provision made for the insane; and Mr. Wynn succeeded in introducing a bill as the result of this investigation, which authorised the justices of any county to take steps for the provision of an asylum, to be paid for out of a levy on the county rate. To such an asylum were to be removed those furious and dangerous lunatics, who had been placed in confinement by the operation of the Vagrant Act of 1744.

Various amendments were made in this Act in the years 1811, 1815, 1819, and 1825.*

In the Act passed in the first of these years, overseers were obliged to produce a medical certificate, testifying to the insanity of the patient; and returns were to be made every year by the medical superintendent of the asylum, of the patients under his care, to the quarter sessions. In the Act of 1815, provision was made for the admission into an asylum of other than pauper lunatics, should accommodation exist; and the overseers of every parish were obliged, when required by the justices, to make a return of the lunatics within their district.

The condition of pauper lunatics was again brought before the House of Commons in 1827; and in 1828† all previous statutes were repealed, and increased provision made "to facilitate the erection of county lunatic asylums and improve the treatment of lunatics."

In the year 1846‡ it was found to be absolutely necessary to enact more stringent regulations for the building of county asylums. By this Act their erection was made no longer optional; boroughs and counties were compelled to provide, within a certain period, the requisite accommodation for pauper lunatics. The operation of this Act, although not practicable to its fullest extent, has, on the whole, been highly beneficial.

Among subsequent Acts was the important enactment of 1853,§ "An Act to consolidate and amend the Laws for the Provision and Regulation of Lunatic Asylums for Counties and Boroughs, and for the Maintenance and Care of Pauper Lunatics in England."

The enactments since 1853, in regard to *private* patients, are those relating to—(1.) *Chancery lunatics*, 18, 19 Vic. c. 13, 1855;

* 51 Geo. III, c. 79; 55 Geo. III, c. 46; 59 Geo. III, c. 127; 5 Geo. IV, c. 71.
† 9 Geo. IV, c. 40. ‡ 8, 9 Vic. c. 126. § 16, 17 Vic. c. 97.

23, 24 Vic. c. 127, s. 29, 1860; 25, 26 Vic. c. 86, 1862. (2.) *Lunatics not so found by inquisition,* 25, 26 Vic. c. 86, ss. 12, 13, 14, 15, 1862. (3.) *Single patients in unlicensed houses,* 17, 18 Vic. c. 114, 1854; 25, 26 Vic. c. 111, 1862. (4.) *Licensed houses and registered hospitals,* 17, 18 Vic. c. 114, 1854; 18, 19 Vic. c. 105, 1855; 25, 26 Vic. c. 111, 1862. (5.) *County and borough asylums,* 17, 18 Vic. c. 114, 1854; 18, 19 Vic. c. 105, 1855; 19, 20 Vic. c. 87, 1856; 25, 26 Vic. c. 111, 1862; 26, 27 Vic. c. 110, 1863.

In regard to *pauper* lunatics, the statutes relating to—(1.) *County and borough asylums* are 17, 18 Vic. c. 114, 1854; 18, 19 Vic. c. 105, 1855; 19, 20 Vic. c. 87, 1856; 25, 26 Vic. c. 111, 1862; 26, 27 Vic. c. 110, 1863. (2.) *Licensed houses and registered hospitals,* 17, 18 Vic. c. 114, 1854; 18, 19 Vic. c. 105, 1855; 25, 26 Vic. c. 111, 1862. (3.) *Workhouses,* 25, 26 Vic. c. 111, 1862. (4.) *Lunatics receiving out-door relief,* 25, 26 Vic. c. 111, 1862. (5.) *Incidence of the charge,* 19, 20 Vic. c. 15, s. 9, 1856; 22, 23 Vic. c. 49, ss. 1, 4, 7, 1859; 24, 25 Vic. c. 55, ss. 6, 7, 1861.

In regard to *criminal* lunatics, see 23, 24 Vic. c. 75, 1860; 24, 25 Vic. c. 134, ss. 106, 107, 1861; 25, 26 Vic. c. 86, s. 15, 1862; 27, 28 Vic. cc. 29, 119, s. 95, 1864.

Lastly, in regard to *Commissioners in Lunacy* there have been, since 1853, the following enactments:—17, 18 Vic. c. 94, 1854; 18, 19 Vic. c. 105, 1855; 23, 24 Vic. c. 75, 1860; 25, 26 Vic. cc. 86, 111, 1862; 26, 27 Vic. c. 110, 1863.*

The meaning attached to the principal terms employed in these Acts is subjoined:

Medical attendant means every physician, surgeon, and apothecary, who shall keep any licensed house, or shall in his medical capacity attend any licensed house, or any asylum, hospital, or other place where any lunatic shall be confined (8, 9 Vic. c. 100, s. 104).

Asylum means any lunatic asylum erected under the provisions of any Act for the erection or regulation of county or borough lunatic asylums (loc. cit.).

Hospital means any hospital or part of an hospital, or other house or institution (not being an asylum), wherein lunatics are

* 'Lunacy Acts,' by Danby P. Fry, Esq., in which valuable work the reader will also find the Acts previous to 1853 enumerated and classified.

received and supported wholly or partially by voluntary contributions, or by any charitable bequest or gift, or by applying the excess of payment of some patients for or towards the support, provision, or benefit of other patients (loc. cit.).

Licensed house means a house licensed under the provisions of some Act for the reception of lunatics (loc. cit.).

Registered hospital means any hospital registered for the reception of lunatics (loc. cit.).

In connection with the foregoing statement of Lunacy Statutes, it may be useful to the general practitioner to have the main regulations stated in regard to the signing of certificates and the care of single patients—the points on which he is most liable to fall into difficulty. In regard to the giving of evidence in courts of law in criminal cases, see the close of the section on Homicidal Mania.

I. Laws regulating the admission of the insane into asylums, in regard to Medical Certificates.—1. No person (not a pauper) shall be received as a lunatic into any asylum, licensed house, or hospital without medical certificates (in addition to Order and Statement of particulars) of two persons, each of whom shall be a physician, surgeon, or apothecary (16, 17 Vic. c. 96, s. 4; c. 97, s. 74, 25, 26 Vic. c. 111, s. 23. See Schedule F, No. 2 and No. 3).

2. The term physician, surgeon, or apothecary shall mean a person registered under the Medical Act (25, 26 Vic. c. 111, s. 47.) He must be in actual practice.

3. Neither shall be in partnership with or an assistant to the other (16, 17 Vic. c. 96, s. 4; c. 97, s. 74).

4. Neither shall be wholly or partly the proprietor of, or a regular medical attendant in, the house or hospital to which the patient is to be sent. Nor shall the father, brother, son, partner, or assistant of the medical man signing the certificate, be so connected with it (16, 17 Vic. c. 96, s. 12).

5. Nor shall the certifying medical man receive any percentage on or be otherwise interested in the payments to be made by or on account of any patient received into the said house (25, 26 Vic. c. 111, s. 24).

6. Nor shall he be a Commissioner or Visitor.

7. Each shall separately from the other examine the lunatic not more than seven clear days before the reception of such person into an asylum, house, or hospital (16, 17 Vic. c. 96, s. 4; c. 97, s. 74).

8. If the medical certificate be defective, it may be amended by the person signing it within fourteen days after the reception of the lunatic, provided that no such amendment shall have any force until it has received the sanction of one or more of the Commissioners (16, 17 Vic. c. 96, s. 11; 25, 26 Vic. c. 111, s. 27).

9. Under special circumstances preventing the examination by two medical practitioners, any person, although not a pauper, may be received as a lunatic into any asylum, licensed house, or hospital upon the order and with the certificate of one physician, surgeon, or apothecary, alone, provided that the statement accompanying such order set forth the above-mentioned special circumstances.

In every such case, however, two *other* such certificates shall, within three clear days after his reception into such house, be signed by medical men, each of whom not only fulfils Law 3, but is not in partnership with or an assistant to the one who signed the temporary certificate (16, 17 Vic. c. 96, s. 5; c. 97, s. 74).

Pauper lunatics.—10. No pauper shall be received into any asylum, house, or hospital without an order (Schedule F, No. 1), under the hand of a justice, or the hands of an officiating clergyman, and the relieving officer or one of the overseers of the union or parish from which such pauper shall be sent, together with such statement of particulars as is contained in such schedule, nor without the medical certificate according to the form in Schedule F, No. 3, see pp. 15, 17 (16, 17 Vic. c. 97, s. 73), of a medical man (see Law 2), the medical examination having been made within seven days previous to the reception of the patient (16, 17 Vic. c. 96, s. 7, and c. 97, s. 73).

11. Medical officers of unions or parishes are no longer prohibited from signing certificates in the cases of pauper lunatics belonging thereto ('Circular Letter from Commissioners,' 1853):

Special instructions regarding medical certificates (see also p. 17).

12. After the words "being a," the medical man must insert, not the word "Physician," "Surgeon," or "Apothecary," but the legal qualification, diploma, or license, entitling him to practise as such within the United Kingdom.

13. He must insert—1. The date of examination. 2. The place, with the street and number of the house (if any) or other like particulars, where the patient was examined. 3. The patient's ordinary place of residence, and profession or occupation (if any).

(Omission of name of street and number of the house where examined will invalidate certificate, Fry, p. 341.)

14. When more than one medical certificate is required he must insert before the words "personally examined" the words "separately from any other medical practitioner."

15. The certificate need not be drawn up or dated on the day of examination. All that is required is that the examination be made within seven clear days before admission.

16. The medical man signing the certificate must specify therein the facts upon which he has formed his opinion, and must distinguish the facts observed by himself from those communicated to him by others—the latter alone being insufficient.*

N.B.—No medical man who signs the Order may sign the medical certificate, nor can he do so if his father, son, brother, partner, or assistant signs it (16, 17 Vic. c. 96, s. 12).

II.—Actions against medical men in regard to illegal restraint or confinement.—"By the common law of England it is only a person of unsound mind, and dangerous to himself or others, that may be restrained of his liberty by another; such is taken to be the law from the case in Bro. Abr. down to the last case on the subject." Lord Campbell in *Fletcher* v. *Fletcher* (28 L. J. R. (N. S.), Q. B. 134), cited in Mr. D. P. Fry's 'Lunacy Acts,' p. 91.

In the case of *Nottidge* v. *Ripley* and *Nottidge* ('Times,' June, 1849) the Lord Chief Baron said that, "if the plaintiff was not in such a state as to be dangerous to herself or others, then the plea to that effect not having been made out, the verdict ought to be for the plaintiff," on that issue also. The Commissioners in Lunacy addressed a Letter to the Lord Chancellor on the 4th of July, in which they said—

"The object of the Lunacy Acts is not, as your Lordship is aware, so much to confine lunatics as to restore to a healthy state of mind such of them as are curable, and to afford comfort and protection to the rest. . . . Moreover the difficulty of ascertaining whether one who is insane be dangerous or not, is exceedingly great, and in some cases can only be determined after minute observation for a considerable time. . . . It is of vital importance that no mistake or misconception should exist, and that every medical man who may be applied to for advice on the subject of lunacy, and every relative and friend of any lunatic, as well as every magistrate and parish officer (each of whom may be called upon to act in cases of this sort), should know and be well assured that, according to law, any person of unsound mind, whether he be pronounced dangerous or not, may legally and properly be placed in a

* See 'Circular Letter of Commissioners,' 1853.

county asylum, lunatic hospital, or licensed house, on the authority of the preliminary order and certificates prescribed by the Acts." Fry, after citing the foregoing and producing evidence to show that the Court will not order the discharge of a lunatic upon a writ of *habeas corpus*, if dangerous to himself or others, even when the order and certificates are invalid, says, "Upon the whole, it appears that the power to restrain and confine a lunatic is limited at common law to cases in which it would be dangerous, either as regards others or himself, for the lunatic to be at large; but that the power to place and detain a lunatic in a registered hospital or licensed or other house, under an order and medical certificates duly made and obtained in accordance with the provisions of the Lunacy Acts, is not so limited. It is important, however, that those provisions should be strictly observed" (p. 319).

In 1862, at the Surrey Summer Assizes, an action was brought by *Scott* against a medical practitioner, *Wahem*, "for placing the plaintiff (who, it appeared, was suffering from *delirium tremens*) under restraint as a dangerous lunatic. It was held by Bramwell, B., that at common law, and apart from the lunacy statutes, a medical man may justify measures necessary to restrain a dangerous lunatic; and that if he be called in to attend a person suffering under *delirium tremens*, he may justify such measures as are reasonably necessary, either to cure the person so suffering or to restrain him from doing mischief, so long as the fit lasts or is likely to return" (op. cit., p. 92). A similar case, in which the Lord Chief Justice laid down the same judgment, occurred in 1863 *Symm* v. *Fraser* and *Andrews*).

As a precaution against the risks of the medical man signing a certificate, it has been suggested to request the relatives requiring it to sign the following form of guarantee drawn up by a barrister:*

To Dr. —— and Dr. ——.

Gentlemen,—We, the undersigned, having requested you to sign a certificate for the admission into a lunatic asylum of Mr. —— of ——, whom we believe to be a person of unsound mind, who ought to be confined in an asylum for lunatics, do hereby, in consideration of your so signing the same and permitting the same to be used at our request, agree and undertake as follows:—

1. To guarantee and save harmless you and each of you against all costs, damages, and expenses, of you or either of you, and all claims and demands against you or either of you, by reason of or touching your signing the same certificate or permitting the same to be used.

2. That you and each of you shall be completely indemnified by us against all the consequences of you and each of you so signing the same and permitting the same to be used.

3. We undertake to defend at our own cost any action, suit, or other proceeding

* See Letter in 'Lancet' from Dr. Bullar, of Southampton, April, 1865.

against you or either of you touching or relating to that certificate or to the use thereof, or to the confinement and treatment of the said lunatic by reason thereof.

As witnessed our hands this day of , 187 .

In connection with actions against medical men in lunacy cases, it is important to know the law in regard to the—

Evidence of lunatics.—Notwithstanding the dictum that neither an idiot nor a lunatic shall be allowed to give evidence except during a lucid interval (Co. Litt., b. 6), the testimony of the insane has been repeatedly admitted in courts of law, so that, as stated by Taylor, "it may now be considered as settled that a lunatic who labours under delusions, but who, in the judgment of a medical practitioner, is capable of giving an account of any transaction that happened before his eyes, and who appears to understand the obligation of an oath, may be called as a witness." He cites *Reg.* v. *Hill,* 'Jour. of Psych. Med.,' 1851.

III. Penalties to which medical men are liable.—1. The penalty for infringing the Lunacy Acts in regard to signing a medical certificate is £20, and every person falsely stating or certifying anything, or signing a certificate as a medical man when he is not one, is guilty of a misdemeanor (16, 17, Vic. c. 96, p. 13).

2. The patient himself may also institute proceedings against the medical man who has signed the certificate, either on the ground that he has never examined him or not done so within seven days of his admission, or negligently. For the first cause see the 'Sixth Report of the Commissioners in Lunacy;' for the second their 'Seventeenth Report,' and for the third the last-mentioned Report also, and *Hall* v. *Semple,* 3 F. and F. 337; also Fry's 'Lunacy Acts,' p. 71. "The charge was, that Dr. Semple had negligently and culpably failed duly to inquire into the truth of the facts, from which mainly he drew his conclusion that Mr. Hall was insane, and in the course of the trial, which lasted five days, the law applicable to the case was fully discussed, and ably and elaborately laid down by the presiding judge. Upon being questioned by Mr. Justice Crompton, the jury stated their opinion that Dr. Semple *bonâ fide* believed that in what he did he was authorised by the Act, although he did it negligently; upon which Mr. Justice Crompton observed:—'That is a verdict for the plaintiff on the ground of culpable negligence and want of reasonable care;' to which the jury assented."

3. If any physician or surgeon, being a Commissioner, or any

physician, surgeon, or apothecary, being a Visitor, shall sign any certificate for the admission of any patient into any licensed house or hospital, or shall professionally attend any patient in any licensed house or hospital (except in accordance with the Acts), such physician, surgeon, or apothecary shall, for each offence against this provision, forfeit the sum of £10 (8, 9 Vic. c. 100, s. 23).

4. A medical man concerned in the unlawful taking or confinement of a patient may be prosecuted by the Crown (8, 9 Vic. c. 100, s. 56).

5. Any person taking charge of a single patient for profit without order and medical certificates, as in a licensed house, shall be guilty of a misdemeanor (8, 9 Vic. c. 100, s. 90).

6. Every medical officer of a parish or union, who shall have knowledge that any pauper resident in his parish is, or is deemed to be, insane, and a proper person to be sent to an asylum, shall, within three days give notice thereof in writing to a relieving officer of such parish, or, if there is none, to one of the overseers. Penalty for omitting to do this, £10 (16, 17 Vic. c. 97, s. 70).

7. If a justice knows of such a case he shall either visit him himself or direct a medical man to do so, and report in writing his opinion, and if the medical man sign a certificate (Schedule F, p. 15) it shall be lawful for the justice or justices to make an order upon the guardians of the union or overseers of the parish for the payment of such reasonable remuneration for the examination of the patient and all other reasonable expenses in or about the examination of such person as to such justice or justices may seem proper (16, 17 Vic. c. 97, s. 69).

It may be added that there are three kinds of cases contemplated in the foregoing sections, of which constables, relieving officers, and justices are bound to take cognizance, viz.:—1. Any person wandering at large and deemed a lunatic. 2. A pauper deemed a lunatic resident in the parish. 3. Any person deemed to be a lunatic, *though not a pauper*, and not wandering at large, *but who is not under proper care and control, or is cruelly treated or neglected* by any person having the care or charge of him. This includes the charge of idiots. The lunatic must be a proper person to be sent to an asylum See in connection with the ill-treatment of lunatics by their friends, &c., R. *v.* Smith (2 C. and P. 449); Reg. *v.* Pelham (8 Q. B. 959); Reg. *v.* Marriott (8 C. and P. 425); Reg. *v.* Porter, 10 L. T. (N.S.), 306. 'Eighth Annual

Report of the Commissioners in Lunacy,' pp. 36, 38, and pp. 38, 39; also 8, 9 Vic. c. 100, ss. 112, 113, and 16, 17 Vic. c. 96, s. 9, and c. 97, s. 68; but the bearing of this latter Act upon the charge of lunatics by relatives was successfully disputed in Reg. *v.* Rundle (see 25 L. 7, 118, and Fry's 'Lunacy Acts,' p. 90). Porter was convicted under c. 96, s. 9, in 1864 (*Times*, March 21).

IV. Single patients.—1. No one deriving a profit from the charge of a patient (except a Committee appointed by the Lord Chancellor) may board or lodge him, or take the care or charge of him without the same Order and medical certificates* as are required on the reception of a private patient into a licensed house (8, 9 Vic. c. 100, s. 90, and 16, 17 Vic. c. 96, ss. 8, 12).

2. Any person who thus receives the patient to board or lodge or takes the care or charge of him, must, within one clear day, transmit to the Secretary of the Commissioners, 19, Whitehall Place, S.W., a copy of the above order and certificates, and a statement of the date of such reception, and of the situation of the house into which such patient has been received, and of the name and occupation of the occupier thereof and of the person by whom the care and charge of such patient has been taken (25, 26 Vic. c. 111, s. 28).

3. The person having the charge of the patient must also transmit, after two clear days, and before the expiration of seven clear days, to the Commissioners a statement of the condition of the patient according to the prescribed form signed by the medical man visiting the patient (25, 26 Vic. c. 111, ss. 28, 41).

4. The said patient must be visited at least every fortnight† by a physician, surgeon or apothecary who did not sign either medical certificate, and does not derive, and has not a partner, father, son, or brother who derives any profit from the care or charge of such patient, and he shall also enter in a book to be kept at the house for that purpose to be called 'The Medical Visitation Book,' the date of his visits, and a statement of the condition of the patient's

* Of which a duplicate copy must be retained by the party having charge of the patient, and the original forwarded to the Commissioners.

† The Commissioners allow this visitation to be much less frequent when they see fit to do so. If this is done, and the patient is in the charge of a medical man, the latter shall, once at least in every two weeks, make an entry in 'The Medical Journal,' of the condition of the patient's health, in the same way and subject to the same conditions as in the case of the visiting medical attendant (16, 17 Vic. c. 96, s. 14).

mental and bodily health, and of the condition of the house in which such patient is, and such book shall be produced to the Visiting Commissioner on every visit (8, 9 Vic. c. 100, s. 90, and 16, 17 Vic. c. 96, s. 12).

5. In the event of the death, removal, discharge, or escape and recapture of such patient, the person by whom the care or charge has been undertaken, or into whose house he has been received, must transmit to the Secretary of the Commissioners the same notices as are required for a private patient in a licensed house. When transferred to other care fresh certificates and orders are not required if the consent of the Commissioners be first obtained (16, 17 Vic. c. 96, s. 20).

6. A person having the care or charge of a single patient may change his residence and remove him to a new residence in England, provided he give notice thereof and of the place of such new residence seven days before to the Commissioners, and to the person who signed the order for the reception of such patient, or by whom the last payment on account of such patient was made.

7. The patient's caretaker may also, after obtaining the consent of two of the Commissioners, take or send such patient under proper control to any specified place or places, for any definite time, for the benefit of his health, provided that before any such consent is given, the approval in writing of the person who signed the order for the reception of such patient, or by whom the last payment on account of such payment was made, be produced to such Commissioners, unless they shall, on cause being shown, dispense with the same.

8. Any person receiving or undertaking the care of such lunatic and infringing any of these enactments is guilty of a misdemeanor.

9. Every letter written by a single patient and addressed to any person other than the Commissioners must be forwarded to the person to whom it is addressed, unless the person having charge over him prohibit the forwarding of it by endorsement to that effect under his hand on the letter, in which case he shall lay all letters so endorsed before the Visiting Commissioners on their next visit. Penalty for infringement £20 (25, 26 Vic. c. 111, s. 40).

10. Any medical man visiting or having the charge of a

single patient must report annually (Jan. 10, or within seven days) to the Commissioners (and oftener if they require it) the bodily and mental state of the patient (16, 17 Vic. c. 96, s. 14).

11. The costs of periodical visits by the medical attendant will fall, with all other expenses, upon the person signing the order.

V. Chancery single patients.—1. When a person has been found lunatic by inquisition, an order, signed by the Commit*tee* appointed by the Lord Chancellor, and having annexed thereto an office copy of the order appointing such Commit*tee*, shall be a sufficient authority for the reception of such person into any asylum, hospital, licensed house, or other house, without any further order or the usual medical certificates. Nor is the fortnightly medical visitation, which is ordered for single patients in unlicensed houses, required in these cases (25, 26 Vic. c. 111, s. 22).

2. If, therefore, the Commit*tee* places the lunatic so found by inquisition under the care of a medical or other person who receives profit from the charge, instead of placing him in a residence rented by him for the patient, his order, as above, is sufficient for the lunatic's reception (see Fry's 'Lunacy Acts,' p. 28).

3. As regards visitation of the patient under the care of a Commit*tee*, the Lord Chancellor can at any time direct a Commissioner or other person to visit him and report (8, 9 Vic. c. 100, s. 112). But the ordinary visitation consists of the visit of one of the Chancery Visitors four times a year—the interval between each visit not exceeding four months (25, 26 Vic. c. 86, s. 19, 20).

VI. Payments for visiting lunatics in special cases.—1. If the Lord Chancellor or the Home Secretary employ a person not a Commissioner in Lunacy to inspect or inquire into the state of any asylum, hospital, gaol, house, or place wherein any lunatic is confined, and report to him the result of such inspection, he may be paid such sum of money as shall seem reasonable to the Lord Chancellor or the Home Secretary, as well as travelling and other expenses incurred while so employed (8, 9 Vic. c. 100, s. 113).

2. If a person has the charge of a lunatic for whom he receives no profit, the Lunacy Acts do not require medical certificates or any legal supervision, but the Lord Chancellor or Home Secretary may at any time, by an order in writing directed to the Commissioners or to any other person, require the person so addressed to examine such lunatic and to report (8, 9 Vic. c. 100, s. 92);

and payment for the trouble is to be reasonable, in addition to travelling and other expenses (16, 17 Vic. c. 96, s. 33).

3. Examination of a pauper. See p. 11, No. 7.

Schedule (F) No. 1.

ORDER FOR THE RECEPTION OF A PAUPER PATIENT.

I, *C. D.* (*in the case of a single Justice of the Peace, or in the case of two Justices, or of a Clergyman and Relieving Officer,* We, *C. D.* and *E. F.*), the undersigned, having called to my (*or* our) assistance a Physician (*or* Surgeon, *or* Apothecary, *as the case may be*), and having personally examined *A. B.*, a Pauper (omit the words "a Pauper" when the lunatic is not a Pauper), and being satisfied that the said *A. B.* is a Lunatic (*or* an Idiot, *or* a person of unsound Mind), (*add, where the lunatic is so sent,** "wandering at large;" *and in the case of a lunatic being sent by virtue of the authority given to two Justices, add,* "not under proper care and control," *or* "and is cruelly treated (*or* neglected) by the person having the care or charge of him," *as may appear to the Justices to be the case*), and a proper person to be taken charge of and detained under Care and Treatment, hereby direct you to receive the said *A. B.* as a Patient into your Asylum (*or* Hospital, *or* House).

Subjoined is a Statement respecting the said *A. B.*:

Signed, *C. D.*, a Justice of the Peace for the County, City, *or* Borough of (*or* an, *or* the Officiating Clergyman of the Parish of).

E. F., the Relieving Officer of the Union *or* Parish of (*or* an Overseer of the Parish of).

Dated the day of One Thousand Eight Hundred and Seventy

To Superintendent of the Asylum for the County of , *or* the Lunatic Hospital of , *or* Proprietor of the Licensed House of (describing the Asylum, Hospital, or House).

Statement.

Same as for Private Patient, with the additions "Parish or Union to which the Lunatic is chargeable," and "Name and Christian Name and Place of Abode of the nearest known Relative of the Patient, and degree of Relationship (if known)."

(To be signed by the Relieving Officer or Overseer.)

Medical Certificate.

Same as for Private Patient, with the omission of "separately from any other Medical Practitioner."

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* If sent as being wandering at large, and the name cannot be ascertained, the entry "name unknown" is sufficient.

Schedule (F) No. 2.

ORDER FOR THE RECEPTION OF A PRIVATE PATIENT.

I, the undersigned, hereby request you to receive *A. B.*, a Lunatic (*or* an Idiot, *or* a person of unsound mind), as a Patient into your Asylum (*or* House, &c.) Subjoined is a Statement respecting the said *A. B.*

Signed, Name
Occupation, (if any)
Place of Abode
Degree of Relationship (if any), or other circumstances of connection with the Patient

Dated this day of One Thousand Eight Hundred and Seventy

To Superintendent of the Asylum *or* of licensed House or Hospital for the County (*or* Borough) of

Statement.

If any Particulars in this Statement be not known, the Fact to be so stated.

Name of Patient, with Christian Name at length
Sex and Age . . . . .
Married, Single, or Widowed . . .
Condition of Life, and previous Occupation (if any)
Religious Persuasion, as far as known . .
Previous Place of Abode . . . . .
Whether First Attack . . . . .
Age (if known) on First Attack . . .
When and where previously under Care and Treatment . . . . . .
Duration of existing Attack . . .
Supposed Cause . . . . . .
Whether subject to Epilepsy . . .
Whether Suicidal . . . . . .
Whether Dangerous to others . . .
Whether found Lunatic by Inquisition, and Date of Commission or Order for Inquisition .
Special Circumstances (if any) preventing the Patient being examined, before Admission, separately by Two Medical Practitioners . .

Signed, Name (where the person signing the statement is not the person who signs the Order, the following particulars concerning the person signing the Statement are to be added
Occupation (if any)
Place of Abode
Degree of Relationship (if any), or other circumstances of connection with the Patient

Schedule (F) No. 3.

MEDICAL CERTIFICATE.

I, the undersigned (here set forth the qualification entitling the person certifying to practise as a physician, surgeon, or apothecary, ex. gra., being a Fellow of the Royal College of Physicians in London, Licentiate of the Apothecaries' Company, *or as the case may be*), and being in actual practice as a (physician, surgeon, or apothecary, *as the case may be*), hereby certify that I, on the day of , at (here insert the street and number of the house, if any, or other like particulars), in the County of separately from any other Medical Practitioner, personally examined *A. B.*, of (insert residence and profession, or occupation, if any, of the patient), and that the said *A. B.* is a lunatic (*or* an idiot, *or* a person of unsound mind), and a proper Person to be taken charge of and detained under Care and Treatment, and that I have formed this opinion upon the following grounds, viz.:

1. Facts indicating Insanity observed by myself (here state the facts).
2. Other facts (if any) indicating Insanity, communicated to me by others (here state the information, and from whom).

Signed, Name
Place of Abode

Dated this day of One Thousand Eight Hundred and Seventy

Addenda.

Boarders.—The exceptional privileges enjoyed by boarders are provided for by 16, 17 Vic. c. 96, s. 6, and 25, 26 Vic. c. 111, s. 18; the latter extending the power to take boarders so as to include any person who may have been within the previous five years a patient in any asylum, hospital, or licensed house, or under care as a single patient.

Pauper Lunatics not in Asylums.—These, whether in workhouses, living with their relatives, or boarded out, are provided for by 16, 17 Vic. c. 97, s. 66, and 25, 26 Vic. c. 111, s. 21, which enact that they are to be visited by the medical officer every quarter, and to be included in his quarterly return. Remuneration half-a-crown; visits to patients in workhouses being excepted, "as the medical officer would constantly visit the workhouse in the course of his ordinary duty" (see 'Lunacy Acts,' p. 107, 130).

CHAPTER II.

OF INSANITY IN GENERAL.

SECTION I.—Synonyms and Definition.

SYNONYMS. Lunacy. Unsoundness of Mind. Mental Alienation or Derangement. Madness. Frenzy. Craziness. Woodness, used by Spencer, from a Saxon word *Woed*, mad; another Saxon word is *gemaad*, or *gæmed*, derived by some from *μαίνομαι*; but by others with more probability from the Hebrew word *mad*. Those afflicted with madness were often called "Toms o' Bedlam," or "Bedlams" (see D'Israeli's 'Curiosities of Literature'). It is stated that the old terms "innocent" and "natural" were used with discrimination; the former referring to the quite idiotic class; the latter to the half-witted, impulsive class (see Bretton's 'Tragedy of Life'). "A bee in his bonnet," a Scotch phrase for a slight touch of insanity; as the English say—"A kink in the head." Scotchmen also say "he's *wud*."

Shiggaon* (Heb.). The Hebrew word for strength is *mad*, from which some Hebrew scholars derive our word on account of the increased strength possessed by the maniacal.

Μανία. παραπληκτος. παραφροσύνη. παραφρόνησις. παραφρονία. ἐπίληψις. φρενῖτις (Gr.).

Insanitas. Insania. Vesania (from *ve*, priv., and *sanus*). Vecordia (*ve* and *cor*.). Delirium (from *deliro*, to go out of the furrow in ploughing). (Lat.)

Insania. Insanitá. Delirio. Non é sano in mente. Pazzia. (Ital.)

Délire. Folie. Insanité. Aliénation Mentale. Maladie Mentale (Fr.).

Irrsinn. Narrheit. Wahnsinn. Psychische Krankheiten. Krankhafte Seelenzustände. Geisteskrankheiten (Ger.).

Under "Insanity in General" we include Idiocy; although

* See Deut. xxviii, 28; 2 Kings ix, 20; Zech. xii, 4; Jer. xxix, 26; Hos. ix, 7.

it is more usual to distinguish between Insanity and Idiocy, the former being a morbid condition induced in a person of sound mind, and the latter an original or infantile defect. When making this distinction, we may comprise them under Mental Alienation or Disease.

DEFINITION.—What Dr. Johnson said of any one who should attempt to define poetry may very properly be applied to him who attempts the definition of Insanity—namely, that such attempts at definition will only show the narrowness of the definer. We believe it to be impracticable to propose any definition entirely free from objection, which shall comprise every form of mental disorder. In regard to Insanity in general, it may be asked, as Burton asks when speaking of melancholy—"Who can sufficiently speak of these symptoms, or prescribe rules to comprehend them? As Echo replied to the painter in Ausonius, 'If you must needs paint me, paint a voice;' if you will describe it, describe a fantastical conceit, a corrupt imagination, vain thoughts and different,—which who can do? The four-and-twenty letters make no more variety of words in diverse languages, than it produces diversity of symptoms in several persons."

Who can supply an unexceptional definition of anger, or of imagination? How much more difficult, then, must the task be when we are required, in the compass of a paragraph, to define a disease which in turn assumes as many forms, not only as there are fundamental faculties liable to disease, but as many forms as these combined in endless variety can assume, and still further varied according as one or more of them may be exalted or depressed? Such are the multiform morbid mental phenomena around which the psychologist has attempted to throw his all-embracing definitions. These definitions it is our purpose now to consider, for from them, while confessing the impossibility of supplying any definition not more or less open to criticism, we may possibly draw something which will serve us at least to describe, with tolerable clearness, though it should fail to define, the essential characters of Mental Alienation.

Locke's celebrated dictum, that "madmen do not appear to have lost the faculty of reasoning, but having joined together some ideas very strongly, they mistake them for truths, and err as men do who argue from wrong principles," and which has often been referred to as an acute and satisfactory definition of insanity, has

only a very partial application,—comprising merely those cases, in fact, in which the patient is the subject of a delusion, illusion, or hallucination, and acts as he would properly act were the delusion a reality. Nor was the definition adopted by Cullen sufficiently comprehensive—"a lesion of the intellectual faculties, without pyrexia and without coma." If, in this reference to pyrexia, it be meant that Insanity must not be confounded with the derangement of the mind occurring in fever on the one hand, or phrenitis on the other, Cullen no doubt correctly enforces a distinction which conventional use, at least, sanctions; but if it be meant (as the student would be apt to understand it) that the absence of feverish symptoms is a condition necessary to the presence of Insanity, the statement is incorrect, and as the term is liable to misconstruction, we think it best to avoid it.

Dr. Combe's definition possesses considerable merit. "It is a prolonged departure, and without an adequate external cause, from the state of feeling and modes of thinking usual to the individual who is in health, that is the true feature of disorder of mind." Congenital defects of mind are obviously excluded from this definition, in accordance with the very general custom—not sanctioned, however, by etymology—of regarding idiotic and imbecile conditions of mind as not insane states. Nor does his definition comprise sudden attacks of Insanity. It has the merit, however, of making the mind of the individual himself, and not that of the physician, the standard of comparison by which to determine his insanity. The same writer is happier, we think, in his definition, when he speaks of Insanity being a "morbid action in one, in several, or in the whole, of the cerebral organs; and, as its necessary consequence, functional derangement in one, in several, or in the whole of the mental faculties which these organs subserve."

Dr. Spurzheim and M. Lélut both err in their definitions of Insanity, in assuming that the patient must be unconscious of his disease; the former requiring "the incapacity of distinguishing the diseased functions," and the latter that there shall be "a disorder of the passions and will, without the patient's consciousness of such disorder." M. Lélut also requires a "lesion in the association of ideas"—a symptom which, however frequently present, ought not to be allowed to constitute an essential condition.

Dr. Conolly, while admitting the difficulties which attach to any attempt to define Insanity, has, however, offered a definition which will be found to include a large number of cases, and is as follows :—"An impairment of one or more of the faculties of the mind, accompanied with, or inducing, a defect in the comparing faculty." It does not, however, comprise many of those instinctive and purely emotional acts in which the patient's comparing faculty appears to remain intact.

Dr. Guislain has given the following definition of Insanity :—"It is a derangement of the mental faculties, morbid, apyrexial, and chronic, which deprives man of the power of thinking and acting freely, as regards his happiness, preservation and responsibility." Chronicity, however, is not essential to a definition of Insanity. Transitory madness—*mania brevis*—seems to be quite forgotten for the moment in such definitions, although those who give them, fully admit the occurrence of such attacks. We should also prefer the expression thinking *or* acting, instead of thinking *and* acting. The latter objection applies, also, to the last clause of the definition adopted by M. Morel, who asserts that Insanity is "a cerebral affection, idiopathic or sympathetic, destroying the individual's moral liberty, and constituting a derangement of his acts, tendencies, and sentiments, as well as a general or partial disorder in his ideas."

Whatever definition of Insanity is adopted by the student, it is all-important that he should regard bodily *disease*, including *defect*, as an essential condition; in other words, Insanity is a condition in which the intellectual faculties, or the moral sentiments, or the animal propensities—any one or all of them—have their free action destroyed by disease, whether congenital or acquired. He will not go far wrong if he regard insanity as *a disease of the brain* (*idiopathic or sympathetic*) *affecting the integrity of the mind, whether marked by intellectual or emotional disorder;* such affection not being the mere symptom or immediate result of fever or poison. That there are affections of the brain causing mental disturbance which are not comprised under Insanity does not vitiate this definition. Medical science ought not, in fact, to recognise this distinction. But for reasons not difficult to discover, custom has distinguished between the delirium of fever and the madness of alcohol on the one hand, and the frenzy of the maniac on the other. In the former instance the cause is so obviously physical, the mental

condition supervening and passing away with the patient's bodily disorder, that it is regarded as a mere accident of such disease. When, however, mental derangement does not arise in the course of a bodily disorder, or, having so arisen, remains after the cause has passed away, then, naturally enough, men look out for another term to designate morbid mental symptoms, sometimes identical with those springing directly from acute attacks of bodily disease, but which make their appearance under very different conditions. It is to meet this want that a definition has to be framed which is justly open to criticism from a scientific point of view. If it does not allow, however strictly scientific, for these exceptional cases, it fails to serve any purpose as a practical definition. If it embrace states of fever and intoxication, it comprises what a universal instinct has sought to exclude. Hence we can clearly see why chronicity and the absence of fever have been imported into the definition, and if there were no danger of understanding these phrases in some other sense than that Insanity does not include those affections which arise in the course of fever and from intoxicants, there would be no objection to their use, but from their frequently conveying quite a different idea we think them undesirable. One reason why it is more difficult now to distinguish in a definition between those insane states which spring from bodily illness and those which do not, is, that we tend more and more to connect all forms of Insanity with a previous or present affection of some organ of the body. It seems to us, however, that arbitrary as is that definition which excludes the fleeting disorders of the mind arising as complications of other diseases, the distinction is essential for practical purposes.

In Puerperal Insanity we meet with a striking example of a sort of border case, actually arising in the course of another disorder, and yet so different from the ordinary delirium of fever, so apt to continue beyond the physical state which has given rise to it, that it has passed into the category of so-called mental disorders. It may be remarked in passing that the horror men have of Insanity is connected with the idea that it is not the outcome or sign of any ordinary illness. It is this which has stamped—we may say branded—it as something distinct from bodily disorders, and it will always be observed with what avidity men seize some physical cause as an *excuse* for the insanity of their relations, such as a

fever, or a blow, or age, or, as in the instance just referred to, the puerperal state.

Now, if we turn to Copland's definition of Insanity, it will be found that he makes no allowance for what may be called the popular definition of the disease; and not only the popular, but generally understood definition among medical men. He defines it as "a deviation from or perversion of the natural and healthy state of the mind, as manifested either by the moral emotions and conduct, or by a partial or general disorder of the intellectual powers and understanding." Such a definition must not, however, be blamed as being incorrect, for it is a true enough *description*, but it seems to fail in embracing mental conditions, deviating from those of health, which no one really includes under the term defined; an opposite error to that of Guislain's definition, which, unless the expressions employed be themselves carefully defined, conveys a signification that excludes cases which must be regarded as genuine examples of Insanity.

Allowing for the exceptional conditions to which we have made reference, Dr. Bucknill's definition is in accordance with the foregoing. He regards Insanity as "a condition of the mind in which a false action of conception or judgment, a defective power of the will, or an uncontrollable violence of the emotions and instincts, have, separately or conjointly, been produced by disease." ('Unsoundness of Mind in relation to Criminal Acts.')

We would repeat, then, that no definition ought to require chronicity, absence of febrile action, recognisable lesion of the intellect, or unconsciousness of the disease. A paroxysm of Insanity may occur suddenly, and be of brief duration. An attack of Insanity, however strictly idiopathic, may be accompanied by feverish symptoms. It may be impossible to recognise disordered intelligence in a genuine case of Insanity. A patient may be miserably conscious of his malady; well aware that his impulses are diseased but uncontrollable.

On the other hand, the positive requirements of a definition demand the recognition of an abnormal condition of the intellectual or moral nature, or both, caused by cerebral defect or disease (either idiopathic or sympathetic). Moreover, to meet an arbitrary, if not a sentimental demand, this abnormal state must not be the passing symptom of fever, nor temporarily induced by intoxicants. We say sentimental, for, however

anxious men ordinarily are to ignore Insanity in such cases as we refer to on account of the supposed stigma attaching to the disease, they are anxious to admit it in the same class of cases when an act has been committed by their friends to escape from the consequences of which, irresistibility and consequent irresponsibility must be proved.

Shall the element of impaired will and irresponsibility form an essential part of a definition of Insanity? It will be found that upon the answer to this question the character of the various definitions proposed chiefly depends; in other words, its character varies in great measure according as the definer does or does not include *such an amount* of disease as renders the individual irresponsible. Two objects of a definition of Insanity are thus constantly confounded together, which ought to be kept distinct—the *medical* and the *forensic*. For medical treatment it is sufficient for the physician that cerebro-mental disease exists, however incipient it may be; but in the consideration of the punitive treatment merited by one who has committed a criminal act, the judge, assisted by a medical expert, ought to determine the extent of impairment of the will and the consequent irresponsibility of the prisoner.

Now, it is simply impossible to include both these ideas in one definition, without narrowing it too much for medical use, or making it too comprehensive for the just demands of the law. If therefore a forensic definition be required, we must add to the foregoing definition that the cerebro-mental disorder is *such as to suspend or impair the action of the healthy will.*

It is not in any definition, however, of mental derangement that the student will learn what Insanity is; and in a court of law the practitioner ought never to be so unwise as to be tempted to offer one, for as Burrows says, it is "an *ignis fatuus* which eludes and bewilders pursuit."

It is in the description of the disorder that the student will be able, so far as books can help him, to comprehend its true characteristics; and, most of all, in his actual observation of the insane. For, notwithstanding the difficulties which beset the construction of a definition, there are in practice comparatively few cases in which a difference of opinion exists as to the fact of Insanity being present in particular instances—a circumstance precisely analogous to what occurs in the exhibition of almost any of

the passions or emotions of our mental constitution. Thus, while definitions of anger would differ with every definer, all would agree that anger is anger when exhibited before them. A writer of eminence has defined love to be "desire kept temperate by reverence."* But who is the wiser for such a *definition?* How different, and how infinitely superior, is the well-known *description* given by Shakespeare! Cases of Insanity certainly exist in which doubt as to their real nature will be experienced by the student; but the existence of these (such as graduate between reason and mental disease) is, as Sir Henry Holland observes, but a part of that law of continuity which pervades so generally every part of the creation.

The following *legal* definitions will prove useful to the reader:

Non compos mentis.—General term to include persons laboring under mental disabilities, and is the most legal according to Coke. As *compos mentis* meant "one in his senses" in Latin, the law of England adopted the phrase, *non compos mentis,* to indicate one out of his senses. Four classes were comprised under this term by Coke: 1. Idiot, or fool natural, who from his nativity by a perpetual infirmity is *non compos mentis.* 2. A person who was of good and sound memory, and by sickness, grief, or other accident, wholly loses his memory and understanding. 3. A lunatic, *lunaticus,* who has sometimes his understanding and sometimes not, *qui gaudet lucidis intervallis,* and therefore he is called *non compos mentis* so long as he has not understanding. 4. A person who, by his own vicious act, for a time deprives himself of his memory and understanding, as he that is drunken; but such a person has no privilege by this voluntary contracted madness. (Shelford's 'Law of Lunatics').

Lunatic.—By 8, 9 Vic. c. 100, s. 94, a lunatic "shall mean every insane person, and every person being an idiot or lunatic or of unsound mind." By 16, 17 Vic. c. 97 a lunatic "shall mean and include every person of unsound mind and every person being an idiot." Fry refers to the following authorities for definitions of lunacy, idiocy and insanity:—4 Rep., 124 *b,* 128 *a;* Co. Lit., 246 *b,* 247 *a, b;* Fitz N. B., 233 *b;* 1 Hale P. C., 29, 31; 1 Ridg. P. C., 518, 533; Blackstone, Comm.; Bacon's Abr., Brooke's Abr., Viner's Abr.; 1 Russell 'On Crimes,' 6—17, &c.

* Quoted by Walker (with approval) in his 'Elements of Elocution.'

Blackstone's definition:—"A lunatic, or *non compos mentis*, is one who hath had understanding, but by disease, grief, or other accident hath lost the use of his reason. A lunatic is indeed properly one that hath had lucid intervals; sometimes enjoying his senses and sometimes not, and that frequently depending upon the changes of the moon. But under the general name of *non compos mentis*, which Sir Edward Coke says is the most legal name, are comprised not only lunatics, but persons under frenzies or who lose their intellects by disease; those that grow deaf, dumb, and blind, not being born so, or such, in short, as are judged by the Court of Chancery incapable of conducting their own affairs" (Cited in Fry's 'Lunacy Acts,' p. 4).

Shelford adopts the above, and observes, "It is singular that the term *lunaticus*, which, though derived from a vulgar error, gives the title to the modern proceeding by commission, and is the only specific description of afflicted persons contained in it, is not to be found in any form of old writ.

Unsound mind.—This term, according to Shelford, seems to have been used in some statutes, and by Lord Hardwicke, in the same sense as insane; but a greater latitude appears to have been given to the meaning of these words by Lord Eldon, who said that "they imported that the party was *in some such state* as was contra-distinguished from idiocy and from lunacy, and yet such as made him a proper subject of a commission to inquire of idiocy and lunacy; and accordingly if a jury find a party to be of unsound mind and incapable of managing his affairs, it is held a sufficient finding to support a commission of lunacy."

It would probably be difficult for the Commissioners in Lunacy to discriminate between "Lunatics" and "Persons of Unsound Mind" in their Annual Report containing the number and distribution of these classes, in which the legal terms are retained, and appear somewhat tautological.

Partial Insanity in law signifies that a person is insane on one or more particular subjects only, and sane in other respects. Lord Hale admitted a partial Insanity of mind as well as a total Insanity. The former is either in respect to things, *quoad hoc vel illud insanire*,—some persons that have a competent use of reason in respect of some subjects are yet under a particular *dementia* in respect of some particular discourses, subjects, or applications; or else it is partial in respect of degrees, and does not excuse

persons who commit capital acts in this state (1 Hale's P. C. 30. Shelford, op. cit., p. 6).

Unthrifts and Prodigals.—Under this head, Blackstone may be quoted:

"The Roman law goes much beyond the English. For, if a man by notorious prodigality was in danger of wasting his estate, he was looked upon as *non compos*, and committed to the care of curators. But with us when a man on an inquest of idiocy hath been returned an unthrift and not an idiot, no further proceedings have been had. *Sic utere tuo, ut alienum non lædas* is the only restriction our laws have given with regard to economical prudence." The summing-up of the master in lunacy in Windham's case was as follows:—"Mere weakness of character, mere liability to impulse or susceptibility of influence, good or bad, mere imprudence, extravagance, recklessness, eccentricity, or immorality,—no, not all these put together would suffice, unless they believed themselves justified, on a view of the whole evidence, in referring them to a morbid condition of intellect" ('Times,' 30th January, 1862, cited by Fry).

Lucid interval "consists not in a mere cessation of the violent symptoms of a disorder, but an interval in which the mind, having thrown off the disease, has recovered its general habit. The party must be capable of forming a sound judgment of what he is doing, and his state of mind such that any indifferent person would think him able to manage his own affairs." Collinson 'On Lunacy,' p. 39, who refers to the following authorities in support:—Att., Gen. *v.* Paruther, 3, Bro. C. C., 444; Hall *v.* Warren, 9, Ves. Jun. 611. Fry also refers to—Groom *v.* Thomas, 2 Hagg. E. R. 433; Wheeler *v.* Alderson, 3 Hagg. E. R. 575; Wheeler *v.* Batsford, 3 Hagg. E. R. 599; Broyden *v.* Brown, 2 Add., 445, &c. Also 'Report of Met. Com. in Lunacy,' 1844, pp. 104, 105.

SECTION II.—Classification.

I. Various methods proposed, and why.—Very different arrangements have been made by different writers on Insanity, and they have grouped its varieties or forms upon opposite principles, guided in some instances by the most prominent distinguishing symptoms,

in others by the mental functions whose disturbance is supposed to induce these symptoms, in others by the pathological changes occurring in the organs with which these functions are associated; and lastly, in others by the somatic causes of the various forms of Insanity. The symptomatological almost necessarily involves more or less of a psychological classification, as the pathological does a physiological one; so that the student will frequently be able to reduce the classifications he meets with to a psycho-symptomatological, a physio-pathological, and an ætiological classification.

One great reason why there is so much apparent confusion and contradiction in the various classifications put forward is simply this,—that the subject is approached from different standpoints, all natural enough, and deserving the consideration bestowed upon them, so long as they are not regarded as separately complete, and exclusive of the others. They are not, it is true, to be jumbled together into one heterogeneous mass; and yet they are perfectly consistent one with another when their right relative position and bearing is clearly stated, and they are called by their right names. We would insist strongly on this truth. *Let us regard the subject from all sides, and not shut up every avenue of approach but one.* It is only thus that the psychology, physiology, pathology, and ætiology of Insanity can be placed (in their relation to classification) in their just proportions, and the result be a consistent whole.

Now, that which makes Insanity a subject of study at all is manifestly the symptoms which indicate its presence—nay, which constitute its existence so far as popular observation extends. These symptoms or phenomena, moreover, while to a medical man they are both mental and physical, are almost wholly mental to the ordinary observer. Remove all the physical signs of disorder, and to him the patient would still be insane. Remove the mental and retain the physical signs, and the patient would be esteemed sane, alike by the ordinary observer and the medical man.

The psychical symptoms must then inevitably arrest our attention first in the study of Insanity, and for this purpose some order in the treatment or description of these symptoms must be adopted. Without preconceived theory the observer must describe that which he sees before him. When he has done so, he can do no other than group his observations in the manner which appears the most simple, and we may say the most

natural, if that can be called natural which concerns a departure from the ordinary course of nature.

In doing so we are pursuing the *symptomatological* method of classification; and inasmuch as the symptoms are psychical, the method is at the same time more or less psychological. The latter method may, however, be pursued so much more elaborately as to constitute an independent *psychological* classification side by side with the customary psychical grouping of the varieties of mental disorder. For instance, when we speak of Emotional Insanity we adopt both a symptomatological and a psychological classification.

Our knowledge of what organs of the body, psychical states are the functions, leads naturally to a parallel classification —the *physiological.* So far as physiologists can tell us the physiology of the several ganglia of which the encephalon is composed, so far we can approach the subject physiologically and adopt a corresponding classification.

A closer examination of the symptoms of the insane than that which the ordinary observer makes when he only recognises a mental disorder reveals signs of physical disease. Syphilitic symptoms, *e.g.* either are or have been present, and these being clearly not caused by the mental condition of the patient, but having preceded it, and being moreover an indication of a morbid state of the body which has conditioned the disorder of the mind, they direct our attention to another of the several legitimate modes of approaching the study of Insanity. Thence arises another method of classifying the disease; but let it not be supposed that it is an exclusive one. Such a classification is physical, somatic; and if the morbid physical condition is, in truth, the cause of the mental state, it is *ætiological.* Further, if it reveals to us the pathology of the various forms of mental disease with which distinct bodily disorders are associated, it is also a pathological classification. But this term more fitly describes one which professes to be founded upon certain definite morbid appearances of the brain as the organ of the mind. The strictly *pathological* is a necessary result of the physiological classification; for if we are acquainted with the structures or organs which in health subserve the normal action and manifestations of the mind, we must aim at discovering the morbid condition which proximately occasions the alteration in the mental functions, or, in other words, insane manifestations.

We now proceed to glance at the various classifications which have been proposed.

II. Ancient Classifications.—From the earliest periods more or less distinction has been made when mental diseases have been treated of. If the Father of Medicine did not venture on any classification, a learned French editor of Hippocrates considers that in his employment of terms he recognised three distinct conditions of the mind. Thus, he represents his use of *μανία* as synonymous with our Mania; his *μελαγχωλία* as synonymous with our Melancholy; his *παρανοια* as synonymous with our Dementia. But it must be admitted that the employment of these terms in the same sense is by no means constant, and it has been disputed whether Hippocrates did attach the idea of gloom or sadness to *μελαγχωλία*. He appears to have used the word *φρενίτις* in the sense of a febrile affection involving the brain, but not an idiopathic inflammation of that organ.

Celsus treats of three kinds of Insanity: first, that which he calls after the Greeks phrenitis, and which is accompanied by febrile symptoms; secondly, that which begins almost without fever, is marked by sadnesss, and is caused by black bile; and thirdly, a form which he divides into two genera—a distinction which is especially interesting. "For some err," he observes "in having false images, and not in their whole mind, as Ajax and Orestes are represented in poetic fables; in others the whole mind, or judgment, is affected."

The Roman law made two classes of the *dementes*, or mad: *furiosi*, those who were excited and violent; *mente capti*, those who were deficient in intellect. Cicero criticised the Greeks for their want of precision in the use of terms.

Aretæus clearly distinguishes between Melancholia and Mania; the former, he says, "does not affect all the faculties of the mind; the patients are sad and dismayed; they are without fever." He, however, held that Melancholy is only the initial stage of Mania. Aretæus likewise clearly refers to Dementia. He evidently regarded all forms of Insanity as simply modifications of the same essential disease.

Cælius Aurelianus treats of Insanity under the two heads—Mania and Melancholia; the latter he regarded as not strictly a form of Insanity; "from which disease it differs," he observes, "in that the stomach chiefly suffers, while in Madness it is the

head." Under Mania he comprised delusions, of which he gives some interesting examples.

With Galen the forms of Insanity appear to have been referred either to Dementia, or, more correctly speaking, Amentia (*ανοία*), Imbecility (*μώρωσίς*), Mania, or Melancholia.

From this brief reference to ancient classifications it will be seen how little of detail in this respect was attempted; at the same time there was a tolerably clear recognition of three different morbid mental conditions,—that of excitement,—that of depression,—that of fatuity. With the exception of the term Melancholia, which is based on principles alike of ætiology and humoral pathology, the terms employed to designate the forms of mental disorder are strictly *symptomatological.*

III. Modern Classifications.—We now pass to the consideration of modern systems of classification. Those of Sauvages and Vogel were *symptomatological.*

Sauvages, in his 'Nosologia Methodica' (1763), terms his eighth class Vesaniæ, under which he comprised Hallucinationes, Morositates, and Deliria.

Vogel (1764), in his ninth class—Paranoiæ, included, among other states, those of Mania, Melancholia, and Amentia.

Linnæus (1763) called his fifth class of diseases Mentales, which he divided into three orders,—Ideales, Imaginarii, and Pathetici; a system essentially *psychological.*

Upon main divisions like these, complex and fanciful subdivisions were founded, in which very opposite affections were brought together. A reference to these classifications is not, however, without its use in showing the relation in which recent arrangements stand to them, and in indicating what, if any, progress has been made in our psychological nosology.

Such a history of opinion reflects the leading theories upon the nature of Insanity, and marks new discoveries as they take place; for example, Prichard's classification would have been impossible before the time of Esquirol and Calmeil. Cullen's classification (1772), which is symptomatological, was, in his day, regarded as clear and natural; and, doubtless, it possessed advantages over the systems of Sauvages, Vogel, and Linnæus. For his larger classes he chose external and sensible signs; rejecting conjectures respecting internal states of the body, he endeavoured to fix on the symptoms essential to the disease. But when he sub-

divided these classes he left this principle, and in attempting to indicate the origin of some of the varieties of the disorder, he did not elucidate the subject by his distinctions. Hence, Pinel has severely reprimanded him for dividing Mania into three divisions: "The vain explanations and gratuitous theories which he gives respecting observed facts, by way of unravelling their mechanism, are they not opposed to the dignified and cautious course which a faithful historian of mental disorders ought to impose upon himself?" He placed mental disorders in the class Neuroses, and under the order Vesaniæ; in which it was intended to include those disorders in which the judgment is impaired without coma or pyrexia. These he referred to four great divisions, viz.:— Amentia, Melancholia, Mania, and Oneirodinia. Amentia might be either congenital, senile, or acquired. Melancholia, by which he implied partial insanity, comprised eight principal varieties; some involving hallucinations of a painful, others of a pleasurable nature, and including Dæmonomania, Nostalgia, and Erotomania. Mania, by which he understood a general insanity (Insania Universalis), had a threefold division, according as the cause appeared to be mental, corporeal, or obscure. Oneirodinia, the last of Cullen's divisions, included somnambulism and nightmare.

It is noteworthy how these early nosologists thoroughly recognised Insanity as a disease constituting but one division of the Neuroses—one order of that great class. Had this been kept more prominently and steadily in view by medical psychologists, that isolation of mental from other affections of the nervous system which has been so injurious in cutting them off from other bodily diseases would not have occurred, and we should not have found Burrows, in his excellent 'Commentaries,' appearing to doubt whether it is not rather to be classed among disorders of the vascular than the nervous system.

Dr. Arnold, in his 'Observations on Insanity' (1782), gave a classification of mental disorders which was eminently *psycho-symptomatological*. It was ingenious, but too elaborate.

His main divisions were into *Ideal*, *Notional*, and (a sub-class) *Pathetic Insanity*. The first included four, the second eight, and the third sixteen forms of Insanity. *Mania* was comprised under Ideal, *Delusive Insanity* under Notional, and the varieties of *Melancholia* under Pathetic Insanity. He based his terms Ideal and Notional on the theory that the objects of Sensation are represented

in the mind by *ideas,* or images, while the mental states which arise from the exercise of the faculties in reflecting upon sensible objects or the operations of the mind may be called *notions.* The former included false *perceptions* ; the latter false *conceptions.*

Crichton, in his classification (1798), taking the Vesaniæ as an order of the great class Neuroses, divided them into *Delirium,* which included Mania furibunda, and mitis, and Melancholia ; *Hallucinatio* or Illusion, including Hypochondriasis, Dæmonomania, Vertigo, and Somnambulismus ; and *Amentia,* including Fatuitas, Memoria imminuta, perceptio imminuta, Vis idearum associandi imminuta, Vis fingendi imminuta, and Vis judicandi imminuta.

Mason Good's order Phrenetica, in his class Neurotica, is subdivided into Ecphronia (Mania and Melancholia), Empathema (Ungovernable Passion), Alusia (Illusion), Aphelexia (Reverie) Paronina (Sleep Disturbance), and Moria (Fatuity).

Pinel classified mental diseases symptomatologically under four great divisions—Mania, Melancholia, Dementia, and Idiotism. It is necessary to state the sense in which he employed these terms. That of Mania corresponded essentially to our use of the word. The most important observation which he made in reference to the forms of mental disease, was the recognition of a form of mania without delirium, *i. e.* disorder of the understanding. Melancholia he described as a delirium which is exclusively directed upon one object, or series of objects, accompanied by sadness. Dementia implied weakness of the Understanding and Will ; while Idiotism did not answer to our Idiocy, but was rather a more advanced stage of Dementia. Pinel refers to the facts which he and other psychologists had collected, as "the only basis upon which can be established any system of nosology founded in nature." He thought we ought to follow the course pursued by Naturalists—first consider the particular symptoms with the greatest attention, then bring together a large number of observations, and group them together according to their points of agreement.

Esquirol extended and, in some particulars, undoubtedly improved the classification of his master, which we have just mentioned. He thus describes the one he adopted :

1st. Lypemania (melancholy of the ancients) ; disorder of the faculties with respect to one or a small number of objects, with predominance of a sorrowful and depressing passion.

2nd. Monomania ; in which the disorder of the faculties is

limited to one or a small number of objects, with excitement and predominance of a gay and expansive passion.

3rd. Mania; in which the delirium extends to all kinds of objects, and is accompanied by excitement.

4th. Dementia; in which the insensate utter folly, because the organs of thought have lost their energy and the strength requisite for their functions.

5th. Imbecility or Idiocy; in which the conformation of the organs has never been such that those who are thus afflicted can reason justly.

It will be seen that this author recognised a just distinction between Dementia and Imbecility or Idiocy, which Pinel did not. He introduced the terms Lypemania and Monomania.

Dr. Guislain's nosology is mainly symptomatological, and a uniform terminology derived from Greek roots is adopted. We do not think it calculated to displace previous classifications, nor as a matter of fact has it done so.

1. Phrenalgia, or Melancholy (exaltation des sentiments de tristesse).

2. Phrenoplexia, or Ecstasy (suspension des actes intellectuals avec roideur générale).

3. Hyperphrenia, or Mania, (exaltation passionée du moral).

4. Paraphrenia, or Folly (anomalies de la volonté impulsive).

5. Ideophrenia, or Delirium, *i. e.* disorder of the intellect (anomalies dans les idées).

6. Aphrenia, or Dementia (déchéance, oblitération des actes moraux et intellectuals). (Leçons Orales, tome i, p. 94).

Dr. Conolly, in his Lectures, has treated of Insanity under the generally recognised symptomatological forms of Mania, Melancholia, Dementia, &c. He observes, that "all forms of mental disorder are dependent on one of three states of the nervous system; a state of increased, or diminished, or a state of unequal excitement of that system;" and that "all other forms of Insanity appear to be mere varieties, or complications, or results."

Professor Laycock has elaborated several classifications of Insanity, regarded from different points of view. They occupy sixteen pages of his 'Medical Observation and Research,' 2nd edit., 1864; but we can do little more than refer the reader to them. One system, however, which consists of an attempt to base the classification upon a strictly *physiological* basis may be briefly indi-

cated. It consists of Disorders of (1) the encephalic centres subservient to the instincts and animal propensities, *i. e.* the medulla oblongata, cerebellum, and posterior lobes of hemispheres; (2) those centres subservient to the emotions and sentiments, *i. e.* the ideagenic or sensorial substance of the cerebellum and hemispheres; and (3) those subservient to the knowing and representative faculties (intellect), *i. e.* the nerves of the senses, their ganglia, and the ideational centres in the cerebral (and cerebellar ?) hemispheres. Numerous subdivisions follow in each class; and Imbecility, Melancholia, Mania, &c., are enumerated as characterising defective or morbid states of the structure, and therefore of the function of the localities mentioned. The principle which lies at the foundation of this system is this :—That as the order of morbid phenomena is precisely that of healthy phenomena modified, whether they be those of function or structure, pathological facts should be classified just in the same way as the physiological. It asserts the unity of function and structure of organisms. It seeks to apply the laws by which the evolution and decline of these organisms in general are regulated, to the degenerations of structure and function in man. Morbid changes in man may be often paralleled with analogous healthy processes in both the lower animals and vegetables (op. cit., p. 23-4).

The student will see how many of the above details are confessedly hypothetical, and probably, in attempting a physiological basis for classification, he can hardly go much beyond the generally acknowledged facts relative to cerebral physiology contained in the ordinary text-books. He may have for some time to be content with regarding Affections of the Mind as divisible, from this point of view, according as they arise from defect or disease of (1) the cerebral hemispheres alone, as exhibited in Idiocy, Imbecility, Dementia, &c., or from such defect or disease combined with disorder of (2) the sensory ganglia or nerves, as exhibited in hallucinations and illusions, or combined with disturbance of (3) the motor ganglia, indicated either by their excessive action, as in Mania, or by their depression and disorganisation, as in General Paralysis, or complicated with an affection of (4) the sympathetic or vaso-motor system, and marked by vascular disturbance, as in hæmatoma auris.

Wherever the mental functions reside, *there* is the immediate seat of their derangement, *i. e.* Insanity; and any physiological

system of classification must be dependent upon the knowledge afforded us on this subject by physiologists. It is clear that the physiology of the Mind and the pathology of Insanity can hardly be separated; the former is involved in the latter, and a classification of mental diseases, more or less physio-pathological, is the result. An example of classification founded strictly on pathological anatomy is, however, afforded by that of M. Parchappe, who adopted the following division:

Acute Monomania.	Insanity with Paralysis.
„ Mania.	„ „ Epilepsy.
„ Melancholia.	Chronic Insanity.

Quite recently M. Aug. Voisin has made a bold attempt in the same direction. Referring to systems based on ætiology, and ridiculing their pathological pretensions, he instances "Alcoholic Insanity," in which, with a common cause, we may have to deal with cerebral hæmorrhage, fatty degeneration of the capillaries, or chronic meningitis. In regard to his own classification it may be stated that, as respects idiopathic cases of Insanity, he recognises four different states, namely, Congestive Insanity marked by congestion and its products; Anæmic Insanity marked by diminution of red corpuscles and other changes in the quality of the blood. The two remaining forms are due either to atheroma of the cerebral vessels, or to tumours and the various lesions accompanying them. Dementia, General Paralysis, Idiocy constitute other classes. He finds it necessary also to include in his entire classification a class of secondary cases which are consecutive to epilepsy, hysteria, &c., and lesions of the organs of sense. It must, however, be admitted that we are not yet in a position, as regards our knowledge of the morbid appearances of the brain, to base our nosology upon the revelations of the deadhouse, whether with or without the microscope; we can only await an advance of knowledge, which will render a strictly speaking anatomo-pathological classification possible, although an approach to it in the form of a pathogenic or somato-ætiological one may be adopted.

The late M. Falret, it may be observed, said that in the first instance he was a firm believer in pathology as a basis of classification, that subsequently discarding this he adopted a psychological system, and ended by adopting the symptomatological, or what he called the clinical method of arrangement as really the most practical.

From the division of the German Psychologists into two great rival camps consisting of the psychical and the somatic schools, corresponding classifications of Vesaniæ naturally followed. Of the representatives of the former, Heinroth, Ideler and Hoffbauer (the legitimate descendants of Stahl), the first named proposed one which is founded upon a very similar mental analysis to that which is given at p. 41, namely, the Intellectual Faculties, the Moral Disposition (gemüth), and the Will in which he includes the Propensities. It is remarkable that he who has taken most untenable ground in carrying the doctrines of the psychical school to their extreme limits in regard to the nature and seat of Insanity, and whose leading dogma* is falsified by every day's experience, should have adopted a classification which, if we have regard to mental analysis at all, possesses decided merit, and presents in Prichard's opinion "the most complete system that can be formed."

Linnæus, as we have seen, regarded the vesaniæ from a mainly psychological point of view. Dr. Prichard's classification was thoroughly psychological in principle; grouping mental diseases under two great classes; the first comprising Moral Insanity or Pathomania; the second Intellectual Insanity, which comprised Monomania, Mania, Incoherence or Dementia. Dr. Bucknill observes that Insanity may be either Intellectual, Emotional or Volitional; and adds that "though in the concrete it is not easy to find pure and unmixed cases under either of these heads, such cases do occasionally subject themselves to observation, and the experienced psychopathist will find little difficulty in apportioning a vast number of the other cases according to their prominent

* "Insanity is the loss of moral liberty. *It never depends upon a physical cause;* it is not a disease of the body but of the mind—a sin. It is not and cannot be hereditary, because the thinking *ego*, the soul, is not hereditary. . . . The man who has during his whole life before his eyes and in his heart the image of God, has no reason to fear that he will ever lose his reason. . . . Man possesses a certain moral power which cannot be conquered by any physical power, and which only falls under the weight of his own faults." It would seem impossible to compress within a single paragraph a larger amount of false and mischievous psychological teaching. It should only be retailed after being duly labelled "POISON." It is only fair to Heinroth, however, to say that his supporters insist upon his having been misunderstood. MM. Lesegue and Aug. Morel characterise him as "penseur profound; chercheur érudit;" and speak of his system as one "au sujet duquel tant d'idées fausses ont eu cours."

character, under one or other of these headings." ('Unsoundness of Mind in relation to Criminal Acts.')

Dr. Noble classifies mental disorders under the three groups of Emotional, Notional, and Intelligential. We think that with the exception of the first, the terms employed are to some extent open to the objection, that they do not sufficiently convey to the student the sense in which they are employed by the writer. So far as it can be done, it is an advantage to make use of a phraseology which readily conveys to the mind the leading character of the disease. Dr. Henry Monro, has adopted a classification essentially the same as that of Dr. Noble. The reader will find the subject of nomenclature discussed at considerable length by this writer in the pages of the 'Asylum Journal of Mental Science' (April, 1856, and January, 1857). He should also in this connection recur to Dr. Arnold's classification.

Griesinger commencing upon a psychological basis admitted the two great groups of Emotional and Intellectual Disorders, associating with the latter, the Will. These he divided into states of (1) Mental Depression or Melancholia, states of (2) Mental Exaltation, and states of (3) Mental Weakness. Under Class 1 were comprised Hypochondriasis, Melancholia in a more limited sense, Melancholia with stupor, Melancholia with destructive tendencies, Melancholia with persistent excitement of the Will; under Class 2, Mania and Monomania; lastly, Class 3 embraced Chronic Mania, Dementia, Idiocy and Cretinism. To these he added Disorders of Sensation, and Disorders of Movement.

Dr. Maudsley's mode of classifying mental diseases agrees with Prichard's and Griesinger's in distinguishing two great divisions, the Intellectual or Ideational, and the Emotional or Affective. Under the former he ranges Mania, Melancholia (general and partial), Monomania, Dementia, General Paralysis, Idiocy and Imbecility.

Under the latter he includes Maniacal Perversion of the affective life or Mania sine delirio, Melancholic Depression without delusion (Simple Melancholia) and, lastly, Moral Alienation Proper, approaching which, is the Insane Temperament. In his book on "Body and Mind," however, he employs and seems to adopt the classification of Dr. Skae.

The writer thinks there is much to be said in favour of the attempt to classify the various forms of Insanity according to the

mental functions affected, as well as according to the other methods. To decide what is mental disease we must first decide what mental health is; and to do this it is inevitable that we should compare, not healthy and diseased mind as a whole, but in relation to the particular faculties and emotions which are disordered. In fact, to follow out this line of inquiry systematically, to parallel the normal activity of the various instincts and mental powers with abnormal action of the same, is one of the most important, as it is one of the most interesting pursuits opened out to the medical psychologist; and is in some danger of being lost sight of in the present tendency to decry the psychological method of classification on account of the mistakes which have been committed in the name of metaphysics.

Could we determine with certainty the fundamental, radical, faculties of the mind, we might then, and only then, hope to possess a detailed and symptomatic nomenclature, according as one or more of them are involved. Did we possess a perfect knowledge of the physiology of the organ of the mind, we should naturally, as in other diseases, endeavour to adapt our terms to the *structure* affected; but, in the absence of this knowledge, it would seem reasonable to adapt them to the affected *function*; indeed, we do this to some extent in strictly physical diseases, for we speak of disorders of digestion, &c., as well as of the organs by which such processes are carried on. In the same way, we might speak of disorders of the intellect, sentiments, &c., instead of basing our classification exclusively on prominent symptoms, as is the case when Mania, Dementia, and similar terms, are alone employed. Accustomed as we are, however, to these expressions, it would be idle, if it were desirable, to attempt to discard them; and they are convenient in conveying in most cases, a tolerably correct idea of the condition of the patient, and the two systems may be combined. In our present imperfect knowledge of the mind in health and disease, we can scarcely hope to attain more by either psychological or symptomatological classifications than that which, indeed, is absolutely essential in a systematic treatise, a certain orderly arrangement of the varieties of Mental Alienation; in regard to which order we may say, as Dr. Lindley observes of a science admitting of far more exact observation :—"Our genera, orders, and the like, are mere contrivances to facilitate the arrangement," &c.

Were we to attempt, in this volume, to arrange the forms of Insanity on a metaphysical basis, we should treat of them under three heads, either Intellectual, Emotional and Volitional, or adopt the division of the Intellect, the Moral Sentiments, and the Propensities or Instincts. It might be sufficient to regard them under two—the one comprising disorders of the Intellectual Faculties, the other those of the Feelings or Emotions; but some convenience would attach to subdividing the latter class—the affective—into those sentiments which we are accustomed to regard as "moral," and as belonging more especially to man; and those propensities or instincts sometimes called "animal," which we would describe, rather than define, by saying, that when exhibited in excess they produce immoral acts. Indeed, animals possess, in degree, so many of the moral faculties which man prides himself on possessing, and man is so largely influenced by the propensities now referred to, that the term "animal" cannot be employed in a very strict sense.

We might thus adopt a threefold classification of the mental faculties coupled with the usually recognised Forms of mental defect and disease as follows:

DISORDERS OF THE MIND, INVOLVING—

		Forms of Insanity.
Class I.—*The Intellect or the Ideas.*		
Intellectual.	*Order* 1. Development incomplete.	Idiocy. Imbecility.
	Order 2. Invasion of Disease after development.	Dementia. Delusional Insanity (including fixed belief in Illusions and Hallucinations). When partial constitutes— Monomania (Intellectual). Mania (usually a disorder of all the faculties).
Class II.—*The Feelings and the Moral Sentiments.*		
Emotional and Voltional.	*Order* 1. Development incomplete	Moral Imbecility.
	Order 2. Invasion of Disease after development.	Moral Insanity. Melancholia— 1. Religious. 2. Hypochondriacal. 3. Nostalgic. Exaltation, regarding 1. Religion. 2. Pride. 3. Vanity. 4. Ambition.
Class III.—*The Propensities,* Instincts, or Desires.*		
	Order 1. General.	Mania (usually a disorder of all the faculties).
	Order 2. Partial.	Homicidal Mania. Suicidal Mania. Erotomania. Dipsomania. &c.

* Include the Will of some authors; uncontrollable propensities and defective Will leading to the same result.

We should, however, only employ these divisions as a chart by which we might shape our course for something like firm land, without allowing ourselves to be lost in the metaphysician's "Ocean of Doubts." They are, after all, only the points and headlands of a recently discovered coast, which navigators have but partially delineated.

In bringing the phenomena of diseased mind into relation with such classification, we should endeavour to refer every form of disease to that class or group of the mental faculties which the disease necessarily, though not exclusively, involves in its course. Thus, Delusional Insanity necessarily involves the intellectual faculties. The same is true of Dementia, Idiocy, and Imbecility; although these, in general, destroy the integrity of the moral feelings also. The animal propensities are, however, so far from sympathising with the condition of the intellect, that they may be in a state of vigorous action. Again Mania implies an excitement which so almost invariably involves the emotions, that although it would be incorrect to speak of it as necessarily developing violence or passion, it belongs, on the above principle, more to the third class than to either of the others.

In Homicidal Mania, the animal propensities are, of necessity, called into action, whether the homicidal act be the result of their diseased action, in association with a healthy condition of the higher sentiments; or of their normal action, when associated with, and therefore uncontrolled by, a state of the moral sense rendered powerless or feeble by disease, be it congenital or acquired, and if the latter, whether from (so called) functional disorder or structural change. We usually become cognisant of diseased mental conditions by *positive*—not by *negative* symptoms. Some overt act or explosion of passion will, in general, be the first proof of any disease of the moral sentiments which involves their occlusion or inertness, when they ought to be in exercise. Should the disease be of such a nature as to increase the *activity* of these faculties, then we have an exhibition of religious excitement or ecstasy.

Some such classification as the above we should pursue, if we deemed it wise, in the present treatise, to recommend to the student's adoption one which is based upon metaphysical divisions. We only present it, however, as one mode of approaching the subject.

Diametrically opposed to the psychological was the somatic school of German Psychology represented by Max. Jacobi, Nasse, and Friedreich.* They directed the attention of medical psychologists in the strongest manner to the bodily causes of Insanity. Jacobi insists upon the ordinary forms of Mental Alienation being nothing more than signs indicating the existence of lesion of some organ of the body. Hence, in his view the condition of the *os sacrum* was almost as important as that of the *os frontis*. In his 'Observations on the Pathology and Treatment of Diseases connected with Insanity,' published in 1830, he enunciates the true somato-ætiological theory that "there is no disease of the mind existing as such, but that Insanity exists solely as the consequence of disease, either functional or organic, in some part of the bodily system."

This position was first enunciated by him in the second volume of his 'Sammlungen' entitled "Psychical Phenomena and their relation to the System in a Healthy and Diseased State."† Jacobi does not, however, discard the ordinary nomenclature, which, when clearly understood to be only symptomatological is useful, and in fact necessary, and, while never losing sight of the somatic cause of psychical manifestations, as the real morbid condition with which the alienist has to deal, he presents three great groups of symptoms:—Those of Insanity without delusion, the disturbance of the intellectual powers being slight; those of Insanity with delirium or incoherence without delusion; and thirdly, those of Insanity with delusion.

It may here be observed that Arnold, in the early part of the century, asked himself the question whether the classification of Insanity could not be arranged according to causes, and he arrived at the conclusion that the knowledge of his day would not admit of it; but that it was a thing to be desired, and at some future day, feasible. "Of causes," he says, "we know too little to make them a foundation of the arrangement of diseases, and particularly of proximate causes, which alone can make us perfectly acquainted with their internal nature. When the science of causes shall be complete, *we may then make them*

* 'Historisch-kritische Darstellung der Theorieen über den Wahnsinn,' 1836; and 'Handbuch der Allgemeinen Pathologie der Psychischen Krankeiten,' 1839.

† See also 'Zeitschrift für die Beurtheilung u. Heilung der Krankhaften Seelenzustände,' 1838, p. 43.

the basis of our classification; but till then we ought to content ourselves with an arrangement according to symptoms. And as there is always a fixed arrangement between causes and effects, an exact arrangement according to symptoms which we see, may tend to throw light upon their causes which we do not see; and the analogy of the symptoms, pointing out an analogy between the causes, may lead to similar and successful methods of cure in similar cases, how imperfect soever may be our knowledge of the real and immediate causes themselves" ('Obs. on the Nature of Insanity,' preface to 2nd edition, 1806).

Flemming, a disciple of the same school, felt strongly* the practical disadvantages of having only a psychological classification, and constructed a nosological table in which the somatic element is recognised. For example, he divides Imbecility into classes, according as it is congenital or is caused by injury to the brain, or by inflammation of the brain, or by nervous fever, or by epilepsy. Here is at least the germ of a somato-ætiological or pathogenetic classification, a shadow, along with Jacobi's "somatisch-psychische" doctrines, of coming events.

In one of his Annual Reports of the Maclean Asylum, Massachusetts, Dr. Luther Bell, just thirty years ago, objected to the usual classification according to prominent symptoms as "unsound as respects the palpable characteristics or manifestations of Insanity: it also will not bear the test of accuracy as regards the *cause of the disease or the pathological condition of the sufferer,* since there is every reason to believe that the peculiar affection of the cerebro-spinal system, or merely the reflex action of more distant irritations upon that system is a unit, and these forms are merely the changing external symptoms, often having scarcely a diurnal continuance before passing from one to another. It is a division useless as regards moral or medical treatment, for neither the moral nor the medical regimen would be determined by the name or class to which a case approaches the nearest, *irrespective*

* See 'Allgemeine Zeitschrift für Psychiatrie,' 1844, p. 104. Still more strongly wrote Petit a year before. In view of the endless subdivisions of some nosologists in his day, founded upon every passing symptom, well might he, in his 'Memoire sur le Traitement de l'Aliénation Mentale,' exclaim against such learned trifling, and characterise them as "bagage" and "fatras scientifique," and sweep them all away by asserting that "quelle que soit la nature du délire, il y a toujours un point quelconque plus ou moins étendue du cerveau, qui est à l'état maladif, et cet état est le même, au dégré près, quel que soit le point affecté."

of the indications presented in each individual constitution." While, however, rejecting the old nosology, Dr. Bell did not substitute for it an ætiological but a psychological classification, viz. a form of Insanity affecting the Intellect; a second, touching the Moral Sense mainly or exclusively—Insanity of conduct, but not of conversation; and a third, consisting in deranged or perverted Sensibilities, the intellect and moral sense being alike undisturbed. Such distinctions as these he considered would be of essential value in the medical jurisprudence of Insanity and the training of the intellectual and moral faculties.

Belhomme, in 1834, in his 'Considérations sur l'appréciation de la Folie, sa localisation,' etc., proposed the twofold division of Idiopathic and Sympathetic Insanity; and Schr. v. d. Kolk, in an article published in 1852,* adopted from a like somato-ætiological or pathogenetic standpoint, the same classification of mental diseases, with important additions. "We are accustomed," he says, "to compare the different kinds of mental disorder according to the differences of the phenomena which they call forth, and to note them down as Mania, Monomania, Melancholia, Dementia, and Idiocy. This classification certainly serves to distinguish the different forms and diseases to be retained; however, it has not always appeared to me to be quite practical, because it proceeds more from the morbid symptoms than from the nature and origin of the disease. For some years I have, therefore, reduced the different forms of the disease to two principal groups, which may be designated as Idiopathic and Sympathetic Insanity, which are distinguished from one another by special characteristics, and which meet all our wants in treatment." Under Idiopathic Insanity he included all cases originating in a primary affection of the brain, whether from hereditary predisposition, injury to the head, or mental influences; while under Sympathetic Insanity he comprised cases arising from disorders of the other organs of the body, especially the abdominal and generative. The great practical utility of this classification consists, he says, in the fact that recovery cannot take place unless the remote cause is removed. Under the primary class of mental disorders he treats of acute and chronic Idiopathic Mania and Hallucinations, Dementia, and Idiocy, while under the second he describes Sympathetic Mania or

* 'Tydschrift der Ned. Maatschappy tot bevordering der Genuskunde.'

Melancholia proceeding from the colon, Melancholia proceeding from the sexual apparatus, Mania from the kidneys and bladder, Mania from disorders of the heart and lungs, and so forth.

The causes of Insanity were much more elaborately studied and brought forward by Dr. Morel as a basis of classification in his 'Traité des Maladies Mentales,' 1860. It was wholly founded upon ætiology. We subjoin an abstract of his classification, referring the reader, for further details, to the 'Journal of Mental Science,' July, 1861, where he will also find the objections stated which may be urged against it.

Group I.—*Hereditary Insanity.*

1*st Class.* Those who are of congenitally nervous temperament.

2*nd Class.* Those whose Insanity is indicated by insane acts rather than insane conversation. Includes Prichard's Moral Insanity.

3*rd Class.* Constitutes the transition state between class 2, and Idiots or Imbeciles. The members of this class are marked by morbid impulses to incendiary acts, theft, &c.

4*th Class.* Idiots and Imbeciles.

Group II.—*Toxic Insanity.*

1*st Class.* Caused by intoxicating substances, such as alcohol, opium, &c. Also poisonous ingredients employed in trade; lead, mercury, &c.

2*nd Class.*—Caused by insufficient or diseased food, as ergot of rye.

3*rd Class.* Caused by marsh miasma, or the geological constitution of the soil (*e. g.* Cretinism).

Group III.—*Insanity produced by the transformation of other diseases.*

1*st Class.* Hysterical Insanity.

2*nd Class.* Epileptic ditto.

3*rd Class.* Hypochondriacal ditto, consisting of three varieties.

Group IV.—*Idiopathic Insanity.*

1*st Class.* Progressive weakening or abolition of the intellectual faculties, resulting from chronic disease of the brain or its membranes.

2*nd Class.* General Paralysis.

GROUP V.—*Sympathetic Insanity.*
GROUP VI.—*Dementia, "a terminative state."*

Since we gave the foregoing classification of Morel, Dr. Skae has proposed a more elaborate one, founded also upon causes. His *first* group or natural order is common to all classifications—Moral and Intellectual Idiocy and Imbecility; the *second* is Epileptic Insanity; the *third,* Insanity of Masturbation; the *fourth,* of Pubescence. Then come Satyriasis and Nymphomania; but Dr. Skae, in a nosological list, with which he has obligingly favoured the writer, embodying his present views, omits these as being merely symptoms. Then follow :—

Hysterical Mania.
Amenorrhœal Mania.
Post-connubial „
Puerperal „
Mania of Pregnancy.
„ Lactation.
Climacteric Mania.
Ovario-Mania (Utero-Mania).
Senile „
Phthisical „
Metastatic „
Traumatic „
Syphilitic „
Delirium Tremens.
Dipsomania.
Mania of Alcoholism.
Post-febrile Mania.
Mania of Oxaluria and Phosphaturia.
General Paralysis with Insanity.
Epidemic Mania.
Idiopathic { Sthenic. / Asthenic.

Now, each of these groups, according to Skae, presents psychological lineaments or symptoms which are peculiar to, and characteristic of it. Here are nearly thirty natural orders or families, each of which, it is held, has its natural history, its special cause and morbid condition, its average duration, and probable termination. Each is a *separate disease,* the symptoms of which when

they vary, do so only within certain limits. The true test of this position must obviously be one of experience. It clearly admits of verification—analytically as well as synthetically. Is it or is it not a fact that Dr. Skae, without being told the prior history of the patient, can distinguish by the symptoms alone a case of Traumatic Mania from one of Phthisical Mania? A case of Syphilitic from a case of Metastatic Mania? It is no doubt true that the patient who is insane from epilepsy presents for the most part tolerably distinct characteristics, though even some of these which would induce us to describe the case as one of Epileptic Insanity, without knowing anything of the past history of the patient, are really physical, in fact, physiognomonical, and not "psychological lineaments." Still, in this instance, there are doubtless some striking psychological features; but that a case of Traumatic Insanity presents "its own special psychological character," the writer would be disposed to question. His own experience would induce him to think that very different mental symptoms frequently result from wounds or blows on the head; and, as regards another form, Puerperal Insanity, we constantly witness the most opposite mental states arise in connection with it—in one case Melancholia, in another Mania. Then, again, we have known a student puzzled to know why the terms sthenic and asthenic should be restricted to Idiopathic Insanity, as it seemed to him to imply that Phthisical Insanity, for instance, cannot be asthenic. When, indeed, in accordance with this system of classification, a case is spoken of as simply one of "asthenic Insanity" or Mania,* it may be doubted whether the term conveys so definite an idea as those which are in ordinary use. For instance, if employed to describe the mental condition of a patient in filling up the Form of Admission required by the Lunacy Board, it would be impossible from this alone to form any opinion as to the psychical condition of the patient. So also for the purposes of classification in an asylum, those terms which denote the present state of the patient's mind would seem to be more practically useful than those which indicate the somatic cause of the mental derangement. It is surely of the first importance for this purpose to distinguish between acute Mania and Suicidal Melancholia. Obviously there are occasions when it would be more important to be informed

* Dr. Skae appears to employ these terms synonymously.

that a patient is labouring under Homicidal Mania, than that his case is one of Sthenic Insanity or Traumatic Mania.

On the other hand, it is manifest that for treatment, this aspect of the disorder is most important, and that the forcible way in which a somato-ætiological system of studying and classifying mental affections directs the student or physician to the bodily origin of the disorder, with a view to the removal of the cause or morbid condition upon which it depends, is a powerful argument in its favour. It should not be forgotten, however, that it does not necessarily indicate the *existing* bodily affection; the mental or cerebral condition being in many cases simply a *remanet* due to disorder of another organ which has passed away. Again, it might be objected that it throws into the shade, or even ignores psychical causes of insanity, and that it would be quite possible to trace the causes of the attacks of the patients in any large asylum, and construct from those of a "moral" nature a psycho-ætiological as well as a somato-ætiological nosology. In fact, "Post-connubial Mania" probably as frequently owns an emotional as a physical cause. We might speak of a "Post-fright" and a "Post-grief" Mania, or of "Post-study" Insanity, and so on through the several emotions and the intellectual faculties. This objection, however, may be met by the consideration that the moral causes of Insanity act upon the mind's organ, and that, therefore, such cases may be fairly referred to Dr. Skae's division of Idiopathic Insanity. The weakness of this classification, it has been frequently said, lies in its having any such division at all. At the same time, if Dr. Skae can distinguish the natural history of those cases of Insanity which arise from a directly cerebral affection, independently of disease of any other organ, the objection ceases to have force; nor does it appear more unreasonable to speak of Idiopathic and Traumatic Insanity than Idiopathic and Traumatic Tetanus, although it may turn out that we cannot in the one disease any more than in the other distinguish, *from the symptoms alone*, the two differently originating forms.

Again, it is difficult to see why physical diseases as causes should be restricted to those laid down in Skae's classification. Why not have as many as have ever been known to cause Insanity? Such criticisms naturally present themselves, but they are not valid reasons for not attempting to pursue this path of inquiry, and so connecting as much as possible the mental

disturbance with the *fons et origo mali,* of which it is but a symptom.

As in skin diseases, so in affections of the brain involving Insanity, it is highly desirable to regard and to describe them in relation both to the characteristics they present and the causes which have induced them. In each, for instance, it is obviously of great moment to recognise a case originating in syphilis, and in each it is needful to convey a clear idea of the symptoms by the use of generally understood terms. No better proof of the practical utility of the old system of typical forms can be given than their retention on the part of Dr. Skae himself, in addition to his own classification. Besides which, common to both, are symptomatological terms; for what are Imbecility and Idiocy but expressions or signs of mental deficiency or disease, without telling us anything as to causes or pathology? Nay, what is General Paralysis itself, in respect to nomenclature, but a symptom, and so of Epilepsy, which may arise from as many different pathological conditions as Mania or Melancholia?

We would further observe, in regard to the proposed classification, that we must distinguish between its somato-ætiological truth, and the uniformity of the symptoms alleged to result from similar bodily causes. It may unfortunately be found that Skae has been too sanguine in regard to the uniform mental groups arising from a common causation, and yet it may be true that he has helped us to distinguish separate pathological entities the study of which will advance our knowledge of the origin, nature, and course of the mental disorders which they occasion —only, as we have said before, let us approach the subject from all sides, and not adopt any one classification exclusively.

The classifications of Morel and Skae, along with that of Schr. v. d. Kolk, have been modified and amplified by Dr. Batty Tuke, who groups under seven great classes,—Arrested or impaired development of the brain, Idiophrenic, Sympathetic, Anæmic, Diabetic, Toxic, and Metastatic Insanity—nearly all the various forms contained in Skae's system, with the addition of, in the 2nd class, Phrenitic Insanity (inflammatory), and Paralysis with Insanity; in the 3rd class, Enteric Insanity; in the 4th class, Limopsoitos (from starvation); in the 6th class, Cretinism, and Insanity from opium eating; and lastly, in the 7th class, Rheumatic and Pellagrous Insanity. *Per contra,* he rejects Satyriasis,

Nymphomania, Dipsomania, and Mania of oxaluria and phosphaturia, and places Epidemic Mania under Hysterical Insanity. It should be stated that the author of this system distinctly calls it "A Pathological Classification of Mental Disease," and he regrets Dr. Skae's not having adopted Pathology as the basis of classification. It must, however, be pointed out that by a pathological classification it is not intended to convey the idea that the morbid anatomy of the brain, either as seen by the naked eye or as revealed by the microscope, forms the basis of this arrangement, but that by pathological is meant the morbid influence which in each case induces the symptoms. This is a very different use of the term from that in which it is employed by Dr. Voisin and others. As to cerebral pathology, the author distinctly says, not only that it is now impossible "to found a nosology on the abnormalities of the brain-tissue," but that "we can never hope to indicate the seat of any special form of Insanity as situated in any particular portion of the encephalon." Doubtless this classification admits of improvement, and the method pursued must not be exclusively followed, but we do not agree with the 'American Journal of Insanity' that "it is no more satisfactory than those hitherto made."

The ætiological method of classification was combined with the symptomatological in the nomenclature proposed by the International Congress of Alienists, who drew up the following at their Meeting in Paris in 1867 :*

1st. Simple Insanity comprehends the different varieties of Mania, Melancholia, and Monomania, Circular Insanity and Mixed Insanity, Delusion of Persecution, Moral Insanity, and the Dementia following these different forms of Insanity.

2nd. Epileptic Insanity means Insanity with epilepsy, whether the convulsive affection has preceded the Insanity and has seemed to have been the cause, or whether it has appeared, during the course of the mental disease, only as a symptom or complication.

3rd. Paralytic Insanity or Dementia, should be considered as a distinct morbid entity, and not at all as a complication, a termination of certain forms of Insanity. There should be comprehended, then, under the name of paralytic insane, all the insane

* The reader will find the entire Report in the 'Journal of Mental Science' for 1870.

who show, in any degree whatever, the characteristic symptoms of this disease.

4th. Senile Dementia is the slow and progressive enfeeblement of the intellectual and moral faculties consequent upon old age.

5th. Organic Dementia embraces all the varieties of Dementia other than the preceding, and which are caused by organic lesions of the brain, nearly always local, and presenting, as almost constant symptoms, hemiplegic occurrences more or less prolonged.

6th. Idiocy is characterised by the absence or arrest of the development of the intellectual and moral faculties, Imbecility and Weakness of Mind constituting two degrees or varieties.

7th. Cretinism is characterised by a lesion of the intellectual faculties, more or less analogous to that observed in Idiocy, but with which is uniformly associated a characteristic vicious conformation of the body, an arrest of the development of the entirety of the organism.

Under the titles "ill-defined forms," "other forms," are to be set down all the varieties of mental alienation which it shall seem impossible to associate with any of the preceding typical forms.

The general adoption of this classification, as also that proposed by Dr. Skae, was recommended by a Committee of the Medico-Psychological Association, for case-taking and reporting the effects of certain remedies, which drew up a report in 1869, and advised in addition to the above that "the predominant features of each case should be taken into account by placing it in its class." Their tabular form for this purpose is as follows, and is well adapted for the object in view:—

FORMS OF INSANITY.		PREDOMINANT FEATURES.									
		Acute delirium and incoherence.	Simple Excitement.	Simple Depression.	Stupor.	Hypochondria.	Strong Suicidal Impulses.	Remittency or Intermittency.	Chorea.	Hallucinations.	Enfeeblement.
CURABLE.		a	b	c	d	e	f	g	h	i	k
1. Insanity of Pregnancy*	Mania	1	1					1		1	
2. „ „	Melancholia			1	1		1			1	
3. Insanity of Childbirth	Mania	1	1							1	
4. „ „	Melancholia			1	1		1				
5. Insanity of Lactation	Mania	1	1							1	1
6. „ „	Melancholia			1	1		1			1	
7. Climacteric Insanity	Mania	1	1					1		1	
8. „ „	Melancholia			1	1	1	1	1		1	
9. Insanity from Uterine Disorder	Mania	1	1					1		1	
10. „ „	Melancholia			1	1	1	1	1		1	
11. Insanity from Tuberculosis	Mania	1	1							1	1
12. „ „	Melancholia			1	1	1				1	1
13. Insanity from Masturbation	Mania	1	1			1				1	1
14. „ „	Melancholia			1	1	1	1			1	1
15. Insanity from Alcoholism	Mania	1	1							1	
16 „ „	Melancholia			1	1	1	1			1	
17. Delirium Tremens	Delirium Tremens	1			1		1			1	
18. Post Febrile Insanity	Mania	1	1					1	1	1	
19. „ „	Melancholia			1	1	1	1	1	1	1	
20. Hysterical Insanity	Mania	1	1					1		1	1
INCURABLE.											
1. General Paralysis	Paralytic Insanity	1	1	1	1	1	1	1		1	1
2. Epileptic Insanity	Epileptic Insanity	1	1	1	1		1	1	1	1	1
3. Senile Insanity	Senile Dementia		1	1		1	1			1	1
4. Paralytic Insanity	Organic Dementia		1	1	1					1	1

* e. g. A case could be quoted as being in class 1 (a, b, i).

In the present as in former editions of this work we shall group mental defects and disorders under five great divisions:—

I. The *first*, comprising IDIOCY, IMBECILITY, and CRETINISM—states of undeveloped intellectual power.

II. The *second*, DEMENTIA, a state in which intellectual power has been destroyed.

III. The *third*, DELUSIONAL INSANITY, or those states in which marked delusion is present, whether assuming a melancholy character (*Melancholia* with delusion), an exalted character (*Monomania* with delusion; the Intellectual Monomania of Esquirol), or a destructive character (*Homicidal* and *Suicidal Insanity*, &c., with delusion).

IV. The *fourth*, EMOTIONAL INSANITY, or morbid states of the Emotions without Delusion, whether of a melancholy character (*Melancholia* Simplex), of an exalted character (Partial Exaltation; the Affective Monomania of Esquirol), or whether marked by a perverted moral sense or by impulses chiefly of a destructive character (*Homicidal Insanity*, &c., without delusion or mental weakness, Instinctive Monomania of Esquirol) constituting Moral or Emotional Insanity *proper*.*

V. The *fifth*, MANIA, a state of general mental excitement or exaltation.

All these forms or varieties of Insanity are liable to complication with EPILEPSY, or if acquired, with GENERAL PARALYSIS.

As a symptomatological and, to a considerable extent, a psychological classification, we do not know that it can be materially improved, having regard on the one hand to the desirability of retaining as far as possible the terms already in use, and on the other to the practical convenience of distinguishing between delusional and emotional morbid mental states, and as distinct from these, states of actual fatuity whether congenital or acquired.

As regards General Paralysis and Insanity complicated with Epilepsy, the mental symptoms present in these disorders will fall, from a symptomatological standpoint, under one or other of the foregoing divisions. It would obviously be altogether out of character with the above classification of Mental Symptoms or States to enumerate in the same category, forms of Insanity the descriptive terms of which do not indicate more than a physical

* In fact, the term Moral Insanity is now universally restricted to that morbid condition which results in immoral acts without intellectual disorder.

symptom or state. If separately distinguished they must find their place in a classification constructed upon physical principles, that is, upon morbid bodily states. Not that a psycho-symptomatological nosology *excludes* these important disorders, but simply that here they are associated with, and form illustrations of, any one of the psychological groups of Insanity. In a somato-ætiological, which should be regarded as the obverse of a symptomatological classification, they of course come first in order; and the various mental symptoms or states which arise in their course occupy a secondary place.

In describing the typical forms of mental disease as presented to us through a study of symptoms, we shall not reject the universally employed terms, Idiocy, Imbecility, Dementia, Monomania, Melancholia, Mania.

We heartily wish "Monomania" had never been introduced into Psychological Nosologies, for if understood in a literal sense its very existence is disputed, and if not, the various morbid mental conditions it is made to include by different writers leads to hopeless confusion. With one author it means only a fixed morbid idea; with another only partial exaltation; while a third restricts it to a single morbid impulse. As we proceed we shall consider its signification, but we shall not frequently employ the term.

Examples of so-called Monomania may occur under either Delusional or Emotional Insanity. The same with Melancholia. When Emotional Insanity takes an exalted form it may be characterised by Religious Exaltation, Monomania of Vanity, &c. It then assumes the form of Partial Exaltation, ever tending to pass on into Delusional Insanity. When exaltation or excitement is general the term Mania is employed. When Emotional Insanity is of a destructive character, the disease assumes a variety of forms, Homicidal Mania, &c. Dipsomania and Erotomania cannot be referred to the destructive class, but rather belong, especially the latter, to an exalted state. They are examples of natural instincts rendered uncontrollable by disease, and in any psychological classification will either be referred to disordered Volition or Emotion, according as the classifier chooses to regard the excessive manifestation as the result of paralysis of the Will or an overpowering emotional impulse. Emotional Insanity like the Moral Insanity of Prichard, is frequently employed in a comprehensive and a limited sense. Either may be made to include all the forms

of Emotional Insanity in which no disorder of the Intellect is apparent, *e.g.* Melancholia without delusion; or Exaltation (religious or otherwise) without incoherence. On the other hand, either may be restricted to those forms in which the *moral nature* is perverted by disease or defect, without intellectual disturbance; and without being necessarily associated with sudden irresistible impulses. In fact, in these cases the will does not struggle against an impulse foreign as it were to the *ego*, and find itself overthrown and subverted, but the *ego* itself is perverted through an abnormal condition of the cerebral organization, constitutional or acquired; we might, therefore, conveniently speak of Emotional Insanity *proper* when we wish to convey the restricted signification of the term. Moral Insanity *proper* would correspond to the same condition. Indeed, it is in this limited sense that, contrary to the original intention of Prichard, the term is popularly, and, indeed, among medical men, almost exclusively employed. Almost all the forms of Insanity are so mixed, and blend so intimately the one with the other, that when describing them we shall shackle ourselves as little as possible with arbitrary divisions—nosological limitations which are better fitted for the study than medical practice.

It has been said of this classification that most of the morbid mental states thus specified do not represent typical forms, and this is very true if by the term "Forms" we understand distinct mental diseases originating in different bodily causes, pursuing a definite course, and having a distinctive morbid anatomy. But if they be regarded as conveying a correct idea of certain morbid mental states, separated from one another by their most prominent characters, they will serve a useful purpose to the student, and we cannot dispense with them. As Griesinger says,* all classifications must in the end return to the principal forms of Insanity, Mania, whether acute or chronic, Melancholia, and Dementia, "because they are really founded on Nature." (Auf welche als wirklich in der Natur begründet am Ende doch alle Eintheilungen wieder zurückkommen müssen.)

Such a classification as the foregoing meets the requirements of "Natural Groups" as laid down by Mill so far as it selects for division characters which possess "the greatest number and the most important of their properties in common"—the names con-

* 'Die Pathologie u. Therapie,' &c., p. 121.

veying "by their mode of construction as much information as possible," and having "the greatest amount of independent significance which the case admits of." It is not necessary to discuss the relative merits of Mill's and Whewell's theories of Natural Groups, the former being based on Definition and the latter on Type, because Mill admits that "Natural Grouping may be said to be *suggested* by Type (*i. e.* by mere general resemblance), but determined by Definition (*i. e.* by possessing specific characters or properties)," which is sufficient for our present purpose. Influenced as any classification must be by our steadily advancing knowledge of the causes and pathology of Insanity, it is best we believe to adopt in a Manual, as our basis, an orderly arrangement of Morbid Psychological Phenomena, their ætiological and pathogenetic relations being pointed out as we proceed, and after we have described the varieties of Insanity already enumerated.

[For our somato-ætiological classification, see the chapter succeeding the description of the various forms of mental disorder founded upon psychical symptoms.]

SECTION III.—Ætiology.

The Causes of Insanity may be either *predisposing* or *exciting*. For example, a man may be in an exceedingly feeble condition of health, in which the death of a friend, or other domestic trial, may induce an attack of Insanity, from which he would not have suffered had he been in the enjoyment of sound health at the time of the event. In such a case the predisposing cause of the patient's Insanity was ill health, the exciting cause, domestic grief. Among the most important predisposing influences are—hereditary predisposition, a delicate mental organization and an "unbalanced mind." Among the exciting are,—inflammation of the brain, intemperance, disappointed affections, &c. In different persons the same circumstance (intemperance, for instance) may have acted in the one as a predisposing, in the other as an exciting cause.

The causes of Insanity may come into operation at the period of conception. We should expect this *à priori*, and experience appears to prove it. We allude more especially to the case of a parent begetting children when drunk.

It is obvious that, on the one hand, the mental and physical condition of either parent at the moment of conception must exercise an important influence upon the future being, *quoad* his insanity; while, on the other hand, it is equally obvious that there are but few instances in which the connexion between the transient mental states of the parents and the character and diseases of offspring can be satisfactorily traced in the way of cause and effect.

At the moment of conception may also be transmitted, so far as the father's influence is concerned, any hereditary predisposition which may exist. That other diseases of the parent besides Insanity may predispose the child to mental disease can scarcely be doubted; and among such diseases may be included, not those alone which belong to the nervous system, as epilepsy, but probably others, such as phthisis.

When the ovum is impregnated it is subjected to the influence of the mother's diseases or predisposition to disease. It is also liable to receive unfavorable impressions from transient conditions of the mother from mental shocks of any kind. The embryo may have also idiopathic disease of the brain.

We may speak of a child's mental disease being cognate or innate, as distinguished from hereditary when it is derived from influences operating during intra-uterine existence. There can be no question as to the origin of a considerable number of cases of Insanity, from causes referable to this division. Attempts to procure abortion should not be overlooked here.

Then follow the risks of birth, injurious compression of the cranial bones and brain, from a contracted passage or a protracted labour. Many crania are misshapen from this circumstance, without Idiocy or Insanity resulting; but a distorted or asymmetrical skull must be regarded as a predisposing cause.

Dr. Crichton Browne has drawn attention to this cause in two interesting articles in vols. 1 and 2 of the 'West Riding Lunatic Asylum Reports.' He says Dugès traced idiocy, and Dr. W. J. Little weakness and eccentricity of mind and other disorders of the nervous system to injuries received in abnormal parturition. Independently of an exceptionally narrow pelvis from disease, and with or without the injury not unfrequently done by the forceps, Dr. Browne insists upon the fact of the greater size of the head in civilised races *unaccompanied by a proportionate increase in the pelvic*

diameters, as an influence operating to a very considerable extent in the production of Idiocy, Imbecility, and Insanity. It is notorious that labour among savage women is much more easily performed than among civilised ladies, and it is difficult to doubt the risk of cerebral injury which must attend the latter. To the forceps Dr. Browne attributes the occasional origin not only of Idiocy, Imbecility, and Moral Insanity, but "a peculiar constitutional tendency to mental or nervous disease."

The following case will serve as an illustration :—"M. R—, one of a large family of intelligent and healthy children, was born after a tedious labour with a huge caput succedaneum, testifying to the pressure to which he had been exposed. He was not expected to live, did not cry for some hours after birth, could not suck for several days, had twitchings of the limbs for a fortnight, and then spasm for about three months. Did not walk until he was three years old and then with a tottering, unsteady gait, and only acquired a few monosyllables a year afterwards. He grew up a typical example of that kind of Idiocy which generally results from tedious and abnormal but non-instrumental labours, and which is not altogether of the baser sort. Although exceedingly feeble in his mental powers, ineducable and unable to articulate distinctly, he could still pick up and play upon the piano any tune which he might hear, and manifested some vigour of memory in certain directions. He had a small conical head, badly shaped features, and a convergent strabismus, and was at times distressingly dirty and mischievous in his habits." (Op. cit., vol. i, p. 12).

The child who is free from predisposition to mental disease, who has safely escaped the perils of conception, fœtal life, and birth, is still exposed to a variety of agents, some external, others internal. Among the former is the milk of a nurse strongly predisposed to Insanity; or (as with cretins) unwholesome water, food, &c. Among the latter is the first dentition, convulsions caused by which (however frequently they may seem not to be followed by any ill result) do exert no inconsiderable influence in arresting the development of previously healthy children.

If, safely escaped from the risks attendant upon the first and second dentition, the child grows up, he is exposed to others at the period of puberty. At this stage of development the danger is no doubt greatest in the female. After puberty both sexes, but especially the male, are exposed to unfavorable influences, which

may be comprised under the terms intellectual and emotional excitement. Man's capacities for enjoyment and misery are alike increased; if wiser, he is also sadder. Then follow, with women, the dangers connected with pregnancy, parturition, lactation, and, lastly, the critical period of life. These are the trial-epochs of life which test the mental strength and integrity of individuals. The influence of puberty and the climacteric period, and the prognosis to be given in Insanity resulting therefrom, will be referred to subsequently.

Old age, finally, plays an important part among the causes of Insanity.

From this rapid sketch of the circumstances capable of generating mental disease to which man is exposed from the moment of conception to the time of his death, we proceed to consider the causes of Insanity in detail.

Predisposing Causes.

Hereditary Predisposition is a term often made to comprise very different degrees of consanguinity. It is sometimes used to signify direct ancestors only. Evidence of Insanity in a direct line is clearly of far the greatest value. It may also mean the existence of Insanity in the uncles and aunts of any prior generation, a circumstance affording a strong presumption of hereditary predisposition. Again, it is an important evidence of family predisposition if the brother of the patient has been insane, for he has precisely the same blood in his veins. At the same time it is clear that it would be a misnomer to speak of a patient's insanity being derived by hereditary transmission from a brother, or, indeed, from an uncle. It is, however, evidence of the existence of family predisposition when the brother or sister and the uncle or aunt of the patient have been insane; indeed, this is almost as strong as when a lineal ancestor has been deranged. Lastly, it is obvious that the fact of hereditary predisposition cannot be with certainty inferred from the Insanity of cousins, owing to the presence of fresh blood from which the taint may have been derived.

When we employ the term "direct" we mean lineal ancestors only; and by "collateral," that the existence of Insanity has been traced to an own uncle, an own aunt, or in a brother or sister;

cousins not being included. It should be added, that the occurrence of Insanity in a parent after the birth of the person affected, cannot be regarded as certain proof of hereditary predisposition; at the same time such predisposition remains highly probable; its value must be judged of by the history and character of the attack under which the parent laboured; whether, in short, it appears to have been accidental rather than constitutional.

Esquirol observes that, of all diseases, Insanity is the most hereditary. "Although observed 337 times among 1375 lunatics, I am persuaded that this predisposing cause is still more frequent." This is nearly one fourth of the cases in which the cause was ascertained, and 21 per cent. of the admissions. He appears to use the term in an extended sense, but does not define it. However, we observe that recent French statistics show a proportion of 25 per cent. when only direct influence is included. Burrows says that six sevenths of his patients were the subjects of hereditary predisposition.

Guislain estimates hereditary predisposition at one fourth of the admissions (56 out of 224 patients). He thinks it probable that it was actually 30 per cent. He includes the Insanity of direct ancestors, uncles, aunts, brothers, sisters, and cousins. As we have already observed, Insanity in these relations may with the exception of cousins be fairly taken as evidence of predisposition. The same writer states that Holst traced it in 323 out of 467 cases, or 69 per cent; and that Jessen discovered it in 360 out of 522 cases, or 65 per cent. These writers, doubtless, include a wide area of relationship. Dr. Parchappe traced hereditary predisposition ("direct and collateral") in only 15 per cent. of the admissions.

M. Michéa believes that at least one half, if not three fourths, of the insane have had, or still have, some members insane in their family. Dr. Damerow traced in 773 patients admitted at Halle hereditary predisposition in 187, or about one fourth. Dr. Webster, in a paper on the Statistics of Bethlem Hospital, states that 32 per cent. of the patients had hereditary predisposition.

The experience of the Retreat, from 1796 to 1840, was as follows:

	Male.	Female.	Total.
Hereditary on the paternal side	19	20	39
Do. maternal side	17	23	40
Do. on both paternal and maternal sides	3	3	6
Do. whether on paternal or maternal side not known ...	32	36	68
Known to be hereditary	71	82	153
Not known or stated to be hereditary	152	164	316
	223	246	469*

From this it appears that, in 153, or nearly one third of the total number admitted, hereditary predisposition was traced. Dr. Thurnam observes, that those cases have not been considered of an hereditary character, the history of which was only characterised by the existence of Insanity in collateral blood relatives; it being obvious that cases of this description do not necessarily establish any direct hereditary transmission. He adds that, had these been included, the proportion would have been raised to about one half or fifty-one per cent.

At the York Asylum in 334 cases out of 1029 admissions during twenty-seven years (1846-72) hereditary predisposition was traced, or 31 per cent. (Dr. Needham's Tables in Report of 1873.)

Dr. Stewart gives the following table, showing the number of the hereditarily predisposed, whose parents, or collateral relatives, were affected, out of 901 admissions.

Crichton Cases.

	Male.	Female.	Total.
Parents or ancestors insane	127	88	215
Brothers or sisters insane	79	64	143
Uncles or aunts insane	18	16	34
Cousins insane	10	8	18
Relatives, relationship unknown, insane	19	18	37
Total.....	253	194	447

In connection with this subject, there are three very interesting inquiries;—first, whether the Insanity of the mother is more fre-

* We take this opportunity of acknowledging our obligation to Dr. Thurnam's 'Statistics of Insanity'—a work unrivalled in this department for original and laborious research.

quently hereditary than that of the father; secondly, in cases of hereditary transmission, is the disease of the mother transmitted to a greater number of the offspring than that of the father? and, lastly, is Insanity most frequently transmitted from the mother to the daughters, and from the father to the sons?

To the determination of these questions M. Baillarger has directed his attention, and the following are the results at which he has arrived:—

1. The Insanity of the mother,* as regards transmission, is more serious than that of the father; not only because the mother's disorder is more frequently hereditary, but also because she transmits it to a greater number of children. (He gives 60 per cent. for the mother, and 40 per cent. for the father).

2. The transmission of the mother's Insanity is more to be feared with respect to the girls than the boys; that of the father, on the contrary, is more dangerous as regards the boys than the girls.

3. The transmission of the mother's Insanity is scarcely more to be feared, as regards the boys, than that of the father; the mother's Insanity, on the contrary, is twice as dangerous to the daughters. ('Annales Médico-Psychol.,' 1844, p. 833. The reader may also consult an article in the 'Allgemeine Zeitschrift für Psychiatrie,' 1848, p. 540.)

The number of cases of Hereditary Insanity from which these conclusions are deduced amounted to 600, of which 440 were hereditary in the direct line by the father or mother, 13 had at the same time both collateral relations and brothers or sisters insane, 147 had only collateral relations insane. The fact of hereditary predisposition is assumed in the second as well as the first class (making a total of 453); but cases of the third class are rejected as being uncertain. Baillarger appears to include cousins in the term "collateral."

We find from statistics given by the late Dr. Brigham (Report, 1847) that the first and second of Dr. Baillarger's conclusions are confirmed by his experience. Out of 79 insane men, 42 had insane fathers and 35 insane mothers, and, in two instances, both parents

* Dr. Stewart's tables, on the other hand, show the maternal influence to have been 7·5 per cent., and the paternal 9·1 per cent., but special circumstances probably account for the difference, and do not destroy the general truth of Baillarger's position.

were deranged; while of 96 insane women, 37 had insane fathers and 56 insane mothers, and 3 inherited a predisposition to Insanity from both parents.

Dr. Stewart in his valuable article in the 'Journal of Mental Science,' April, 1864, on "Hereditary Insanity," based on the study of 901 cases admitted into the Crichton Royal Institution, Dumfries, gives the following statistics under four classes:—1st class, Hereditary Insanity or eccentricity, *i. e.* when a first cousin or any nearer relation had suffered from such affection, 447 cases, or 49·61 per cent.; 2nd class, Hereditary Diseases not Insanity, or in whose parents there was found some disease or condition which had apparently produced the Insanity in their offspring, 49 cases or 5·43 per cent.; 3rd class, no Hereditary Disease, cases 245, or 27·19 per cent.; 4th class, Hereditary condition unknown, cases 160, or 17·75 per cent. In 181 of the cases only one relative of the patient was known to be insane, whilst in 226 cases more than one relation had been affected; results, as Dr. Stewart points out, approaching very nearly those observed at the York Retreat.

The following table shows the paternal and maternal influence on the number of males and females, along with Dr. Thurnam's and Dr. Brigham's tables.

Thurnam.				Brigham.			
Paternal influence.		Maternal influence.		Paternal influence.		Maternal influence.	
Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.
19	20	17	23	42	37	35	56
8·5 p. c.	8·1 p. c.	7·6 p. c.	9·3 p. c.	7·07 p. c.	6·3 p. c.	5·9 p. c.	9·5 p. c.

Crichton Cases.

Paternal influence.		Maternal influence.	
Male.	Female.	Male.	Female.
49	33	37	31
9·4 per cent.	8·7 per cent.	7·1 per cent.	8·1 per cent.

The influence of sex in *receiving* Insanity is shown by the Crichton tables to be the greatest in regard to the female, as exhibited by previous statistics:—Number of males 253, 48·56 per

cent.; Number of females 194, 51·06 per cent. Hood's tables show 8·58 per cent. for males and 10·62 per cent. for females.

In the following table is exhibited the proportion of hereditary cases *in the different forms of Insanity* observed in the Crichton Institution, as reported by Dr. Stewart.

Mania.	Melancholia.	Monomania.	Moral Insanity.	Idiocy and imbecility.
51·0 per cent.	57·7 per cent.	49·0 per cent.	50·0 per cent.	36·0 per cent.

Dipsomania.	General Paralysis.	Dementia and Fatuity.
63·4 per cent.	47·6 per cent.	39·5 per cent.

It must not, however, be overlooked that a certain number of insane persons will necessarily have insane ancestors, without there being a necessary connexion in the way of transmission between the ancestor and the insane descendant. But this source of fallacy does not appear to be of much practical moment.*

* A mathematical friend considers that this source of fallacy may be approximately corrected as follows:—Assuming that there is no peculiar predisposition—no peculiar likelihood—that the descendants of persons insane will themselves be so, there is, nevertheless, a certainty that, in the nature of things, such will, in some instances be the case. What is the probability, in any given instances, of this?—a probability which must be deducted from that actually found to exist as tabulated, in order to ascertain the amount of influence possessed by the *heritable* character of the disease. Now, in order to ascertain this probability, we must first define what are the limits of the terms descendant and ancestor. If simply parent and child be the relation considered, the question is very simple. If 1 person in n throughout the world, or the districts whence the statistics are derived, be insane, the probability that of three individuals—A, B, C—selected at random, two at least shall be insane, *and that* A *shall be one of these two*, will be given by $\frac{2}{n^2}$. Now, if A be an insane person, and B and C his parents, we have here the probability that one or other of his parents (possibly both) would be insane. Now if we increase the number of persons included in the list of ancestors say to m persons, (A), B, C, D, E, F . . . the probability that one at least of these m will be insane when A is so, will be $\frac{m}{n^2}$. And it is obvious that by increasing m sufficiently we can include not merely ancestors, but collateral relatives. For example: Assuming the proportion of insane persons in the districts examined to be 1 in 500, and taking into account direct ancestors only for 6 generations back (126 in number), the probability that *one at least*, possibly more, of these 126 will have been insane *when the individual* himself is so, will be $\frac{126}{500000}$, or ·000255, or ·0255 per cent. In order, therefore, to make this source of fallacy important—on an assumption like $\frac{1}{500}$, we must take our line of ancestors back much further than six generations, or else include collateral relationships. The foregoing was submitted to the late Professor De Morgan, and had his sanction.

Buckle, indeed, called in question the evidences upon which the hereditary transmission of disease rests, but it is not possible in view of the constantly increasing stock of facts accumulated on this subject to deny this influence in regard to Insanity, apart from mere coincidence.

Prosper Lucas, the highest authority in regard to hereditary influence, replies to the question whether this principle applies to disordered as well as healthy mental characteristics:—"Il n'y a point d'état pathologique de l'être où l'intervention de l'hérédité morbide soit, et plus remarquable, et plus remarquée. Elle est une source possible de toutes ses lésions." ('De L'Hérédité.')

He quotes from Michaëlis an instance in which all the male descendants of a noble family of Hamburg, remarkable from the time of the great grandfather for their great military talents, were attacked with Insanity at the age of forty; only one remained, an officer, who was actually forbidden to marry. The critical age arrived, when he, too, went insane. At Hartford, Connecticut, a maniac was admitted who was the eleventh insane member of his family. Moreau mentions the ninth member of a family having been so attacked, the others being his father, two brothers, two sisters, two cousins, and an aunt.

Lucas mentions an English family in which, the father, mother, son and daughter had been attacked with Insanity "like a contagion." He cites from Girou, the following:—"Q— was insane; a charlatan seemed to cure him. His mother loses her head with joy; she throws her head-dress out of the window, and from that moment is insane. His brother has four daughters who resemble him, and who, like him, are weak in the head; he has also two boys who resemble their mother and appear to be all right in mind." At the same time it must be admitted that these are exceptional instances, and that nothing is more common than for only one member of a large family, the offspring of a lunatic, to become insane.

We might have supposed that bodily features would be transmitted along with mental peculiarity; and Burrows says such is the case; but Moreau's conclusions are quite opposed to this idea. He asserts that while personal resemblance and cerebral disorder may be transmitted by either parent, they never are so by the same (L'Union Médicale, No. 48).

Thus, "when the children resembled the parent of the opposite sex the following results were obtained:—of 22 females

suffering from Insanity, 17 had inherited it from the mother, and 5 from the father; while of 142 insane males, 95 had acquired the disease from the father, and 47 from the mother; when, on the contrary, the analogy of resemblance was inverted, 47 sons who resembled their father, derived their Insanity from the mother, and 8 girls who resembled the mother, derived theirs from the father." (Cited in the 'Med. Chir. Rev'. April 1863, by Dr. Sedgwick.)

When mental disease is transmitted, does the form of Insanity descend? Very frequently this appears to be the case. Moreau confirms the opinion of Esquirol that such is even the general rule. He says it is rare that the form the malady assumes does not present the most striking resemblance, sometimes even a true identity. On the other hand Burrows remarks, "Mania and Melancholia do not propagate their respective types;" and, he says in another place, "One type only of mental derangement can be said to propagate itself—the propensity to suicide." Lucas accumulates evidence on this point in regard to Hallucinations, Monomania, Dipsomania, Suicidal Insanity, Melancholia, Mania, Idiocy, &c.

A few illustrative cases may be of interest to the reader.

Hallucinations.—Frederika Hauffe, the seeress of Prevorst, who saw so many apparitions. Most of the members of her family had the same gift of "causer avec les esprits." Pierre P—, aged 63, eccentric, and all his life the victim of apparitions and hallucinations of hearing, lived with his daughter, aged 17, threw all his money out of the window, opened the door, and showed his neighbours the dead body of his daughter, mourned over her, and said that being like himself tormented with hearing sounds and voices he had hoped to cure her by stopping her breath with his thumbs, but loved her much and certainly did not intend to strangle her.

Moreau gives the case of a man, aged 45, who, violent and irascible in character, had been subject to Epilepsy from the age of 37. "Three years before the first attack, being exposed to a hot sun, and his head uncovered, he heard a voice say "save thyself," and he felt as if some one had given him a violent blow on the stomach; he also saw a man turning a machine. These hallucinations frequently returned, but he regarded them in their just light. Insanity was not developed till a year after the first attack of

Epilepsy. Then he had hallucinations which induced him to commit insane acts. The mother of this patient is subject to *visions;* his father died of paralysis; a maternal uncle, cousin, and grandfather were insane."

Monomania.—A woman, W—, who had among other *idées fixes* the idea that people wished to poison her; her mother had been for long pursued by the same delusions. A mother and her daughter at Charenton both laboured under the same delusion that they were favoured by the special protection of spirits. Another lady, B—, believed in a fantastic being whom she called "Solomon." Her father attributed everything to another imaginary being whom he called "Stratagem." Of *Dipsomania* the cases are so common that it is not necessary to detail any examples; of *Erotomania* many illustrations may be found in Fodéré and Lucas. Of *Homicidal Mania* the following may be cited:—A woman labouring under this form of Insanity, induced by drink, had an uncle insane whose attack seemed occasioned by similar excess; another woman, attacked with the same Monomania, had one of her brothers insane, and was the child of parents possessing very excitable nervous systems. Pierre Rivière who killed his mother, brother and sister, belonged to an insane family, and the mental disease of one of his uncles presented the same character as his own. The mother and the sister of the homicidal monomaniac who assassinated Professor Delpech were insane, but Lucas does not make it clear that the form was homicidal, the object for which he adduces this and other cases. Catherine Olhaven's case is much more to the point. "A nurse, she had an irresistible impulse to kill the children under her charge. Now her mother on account of illness was obliged to wean her child when she was only six weeks old, and the first symptom of her disorder was a desire to kill her baby. She had ripped up one side of the feather bed, in order to smother it and then conceal it there. A very severe fever succeeded, at the end of which she had no recollection of what had happened, and again suckled her child." Examples of hereditary *Suicidal Insanity* abound. Falret gives the case of a family in which the grandmother, mother, and grandchild were the subjects of Suicidal Melancholia; and another example, namely that of a family in which the father who was of a taciturn disposition had six children, five boys and a girl; the eldest, aged 40, precipitated himself from the third storey without any motive;

the second in age strangled himself at 35; the third threw himself from a window in attempting to fly; the fourth shot himself with a pistol; and, lastly, a cousin jumped into a river from a trifling cause. Moreau gives the first of the two following cases, and Cazauvieilt the second:

M. H. was tempted to commit suicide; his father and paternal uncle actually did so; a brother, who visited him at Charenton, was in despair with the horrible ideas which tormented him, and was convinced that he should yield to them.

D—, a son and nephew of suicides, marries a woman who is the daughter and niece of suicides. He hangs himself, and his widow marries for her second husband a man whose mother, aunt, and cousin-german all destroy themselves.

The last-mentioned author also traced in suicidal relations similarity in even the form of suicide. A. B— drowned himself, his nephew also drowned himself five years afterwards. C. D— hung himself, his nephew did the same sixteen years later. E. F— hung himself, his great uncle destroyed himself by the like means fourteen years before. G. H— hung himself, his daughter hung herself three years after. J. K— hung himself, his sister did the same four years later, and their grandmother had adopted the same mode of death fifteen years before he had. Lastly, L. M— suspended himself, and his grandson did so twenty-eight years later, while his brother and his sister both attempted suicide.

Melancholia.—Many of the cases just cited illustrate the hereditary transmission of the melancholic form of Insanity. Esquirol characterises it as generally hereditary. "Melancholiacs," he says, "are born with a peculiar temperament, which disposes them to Melancholia." A lady was admitted into M. Belhomme's establishment labouring under Melancholia and refusing food. Her son, barely fifteen, already manifested signs of the same form of mental disorder. This lady's grandfather and mother were insane.

Mania.—Of the transmission of this, the most frequently hereditary form of Insanity, it is unnecessary to adduce proof.

General Paralysis is stated to be highly hereditary, but we have not been able to meet with any facts which support the opinion that it has a tendency to reappear in the same form in the next generation. Insanity was hereditary in 8 out of 49 cases of general paralysis (or 16 per cent.) reported by Dr. Burman in

the 'West Riding Reports,' but no information is supplied as to the form it assumed in the forebears.

As regards *Idiocy*, Lucas cites the case of a child born of an idiot mother, who was idiotic and who from its infancy, left among the cows in the stable, acquired the habit of ruminating like them. Again, the eldest of three sisters, all imbecile, had two children, of whom one, a boy, was imbecile. He quotes from Séguin the following:—"I have never had the charge, so far as I know, of an idiot, the son of an idiot, nor even of an imbecile; whilst I have frequently known or seen in the family of one of my pupils an aunt, an uncle, and oftener a grandfather, idiotic, insane, or imbecile." Esquirol says, "I have seen two idiots become mothers; I have not been able to ascertain what became of the children" ('Maladies Mentales,' tom. ii, p. 240—1). Haller gives the case of "two noble families in which Idiocy had appeared for nearly a century when he wrote, and in which it still appeared in some members of the fourth and fifth generation" (Lucas, vol. i, p. 577). The latter himself records an instance of a porter who from his birth had been semi-idiotic; his wife was of ordinary intelligence; they had a son who was in the same mental condition as his father.

Dr. Leubuscher, of Berlin, in an interesting article on Hereditary Insanity, which will be found in the 'Journal of Psychological Medicine,' April, 1848, asserts that the lower forms of mental disease, as Imbecility or Silliness, and some forms of Depression, appear, in a remarkable degree, to be hereditary; and also, that the *outbreak* of an hereditary disposition to Insanity is especially connected with the processes of development, as the occurrence of puberty, the climacteric period, and childbirth.

But while the same form or type of mental disorder may descend from one generation to another, it is also certain that not only may one form be succeeded by one of a very different character but by other neuroses, as Epilepsy or Chorea. Burrows enumerates Hypochondriasis, Apoplexy, Paralysis, Epilepsy, Convulsions, Chorea and Hysteria, as hereditary "relations of Insanity." Portal pointed out the fact that in the same family one nervous affection is replaced by another, instancing Mania and Epilepsy. Greding also observed Mania in the mother become Epilepsy in the children. Gintrac perceived that great nervous sensibility in one generation was metamorphosed into Monomania, Hysteria,

Epilepsy, Neuralgia, in the next. Lucas, who cites these authors as well as Bourdin, &c., devotes a chapter to the subject of hereditary metamorphosis of diseases of the nervous system. He points out that the general law of the transmission of similar types is compatible with mutability of type—the transmission of allied but different forms of neuroses. In fact, Gaussail held that nothing is transmitted but the *aptitude* for some form or other of nervous disorder, and that this is wholly determined by causes subsequent to birth. Lucas shows that as in an individual any nervous affection may be transformed into another, and thus prove the consanguinity of these disorders, so may the like transformation take place in parents and children. Morel, Moreau, Maudsley, and Anstie have latterly pursued the subject in still more detail. Dr. Anstie in an able paper "On the Hereditary Connections between certain Nervous Diseases" in the 'Journal of Mental Science,' January, 1872, has pointed out two varieties of inherited neurosis, the Active Hereditary and the Dormant. Of these we shall speak in a subsequent chapter.

Lucas, it may be remarked, divided heredity into three divisions, according as it is manifested: (1) in mere predisposition or simple aptitude for a certain disease, (2) in the *latent* state or germ of the malady, or (3) in the *patent* state or actually developed disease.

We cannot conclude the consideration of hereditary predisposition without referring to the question so often asked, "Is it right when there is, as people say, "Insanity in the family" for a member of that family to marry? The physician is certainly not called upon in all cases to advise against marriage, even if his advice were very likely to be followed. The results arrived at by Baillarger may assist in forming an opinion in the particular case under consideration; for instance, there would be less danger in a man marrying, whose mother, and not whose father, had been insane; but still more important would be the character of the mental and physical constitution of the person himself, whether in short an insane diathesis is indicated. Predisposition to Insanity might exist in a female, and it be thought that marriage would exercise a favorable influence over the system and lessen the probability of an attack. We confess that in such a case we should greatly hesitate to encourage marriage. Certainly, if in ever so small a degree there is to be a stamping out of Insanity, we must act on

the principle, Better let the individual suffer, than run the risk of bequeathing a legacy of Insanity to the next generation. Respecting those who have been actually insane, we hold that the strongest dissuasion ought to be employed to prevent the marriage of females who have not passed the child-bearing period of life. With regard to males, marriage would no doubt be highly beneficial in many instances, and if the risk of progeny is not run may well be encouraged, provided the consenting party is fully informed of the individual's prior history and of the degree of liability of a relapse which exists. Every psychological physician has known instances in which the comfort of a *quondam* patient has been vastly increased, and the probability of a relapse proportionately lessened; the union proving in all respects a happy one. He may also be able to recall cases in which, not the individual who had once been insane, but the person who had risked having an insane partner for life, was the one to become the subject of mental disease. We have known a gentleman not only marry and have no relapse, but become himself the head of an establishment for the insane. Clearly, then, all the circumstances of each case, the apparent amount of predisposition, and the signs of an insane diathesis, must be taken into consideration rather than the adoption of an inflexible rule, but both in these cases and where there has been actual Insanity, primary regard should be had to the risk of a family. Undoubtedly, however, it is much easier to say theoretically what ought to be advised than to give this advice consistently and resolutely in individual instances. Besides, in many cases, the physician's counsel, however excellent, will have too powerful an antagonist to contend with to allow of its being followed.

Some difference in the opinion formed of the undesirable character of such connections may reasonably be made between those cases in which the ancestor has become insane after, and those in which he (or she) has become so before, the birth (conception) of the child. For while in the former it is possible that the germ of Insanity may have been latent in the constitution of the parent, and as such be transmissible, this possibility becomes converted into a certainty, if the nervous system has been the seat of mental disorder prior to the generation of the offspring. The exciting cause of the malady when the attack occurs in an individual after giving origin to a new life, may greatly affect the

judgment formed by the physician; for instance, Insanity from an accidental cause, as a blow, or simply from old age, should be differently regarded as a proof of constitutional tendency to Insanity, than spontaneous mental disorders occurring in the prime of life.

Having, since the foregoing was written, read the chapter on this subject in Burrows' 'Commentaries,' and Dr. Maudsley's 'Address' in 1872, which bears in part upon this subject, we may add that Burrows, one of the first alienists to treat this question as one of grave practical import, expressed himself in favour of "greater precaution in matrimonial connexions," and quotes from Boethius that in old times when a Scot was affected with any hereditary disease "their sons were emasculated and their daughters banished, and that if any female affected by such disease were pregnant, she was to be buried alive." It is very remarkable that after all that has been said and done in our day in stamping out disease, and after a much fuller appreciation of the subtle influences of ancestral tendencies, there should be something like an opposite current of feeling which would look almost with favour, certainly not with horror, upon even fruitful marriages among those belonging to "an insane family."

Dr. Maudsley inclines to think that "to forbid the marriage of a person sprung from an insanely disposed family, might be to deprive the world of singular talent or genius, and so be an irreparable injury to the race of man." With our present ignorance of the laws of human production, he cannot think that "Science has yet the right to forbid marriage to those in whom some tendency to Insanity exists."

In regard to men and women who have had actual attacks of Insanity, he admits that one may justly use the strongest words of dissuasion, "but how much further than that, one is justified in going does not seem at all clear." In cases of Puerperal Insanity he would not necessarily endeavour to prevent a woman having children afterwards, but would be guided in each instance by special circumstances. In this conclusion all probably would unite. We should, however, as already intimated, be more inclined than Dr. Maudsley to discourage marriage among those predisposed to mental disease.

It is certainly a happy law of nature, as some set off against the melancholy results of propagation among diseased human

beings, that, sooner or later, the race tends to die out. The mental faculties and bodily powers are at last reduced so low that *ex nihilo nihil fit.*

Prosper Lucas clearly laid down the law that "there exists an inferior degree of mind in which the anomalous state of the mental force sinks so low beneath the natural order, that reproduction of it is almost impossible" (op. cit., vol. i, p. 579).

The student wishing to work out this subject thoroughly must study Morel's able work, 'Traité des Dégenérescences Humaines," in which the influence of Insanity is traced through several generations with much more detail, and with the result above stated.

It is true, as stated in another part of this section, that Idiocy or Imbecility *may* be propagated.

Lucas refers to the propagation of Cretinism by descent. The researches of Fodéré and Roesch support this view—"This extreme degree of Imbecility is transmitted from family to family, and, by a phenomenon which is only witnessed exceptionally in hereditary transmission, is manifested in infants at birth; some are true cretins before coming into the world" (De l'hérédité naturelle, vol. i, p. 579). He adds that this equally holds good of Imbecility without Goître and Cretinism; but it is evident that, as regards both classes, there are a large number who do not and and cannot propagate their kind.

There are various circumstances which constitute predisposing causes of Insanity, both physical and moral, and which are separated by very delicate lines from the original disease on the one hand, and form exciting causes on the other. Thus, in close connection with hereditary descent, but not necessarily derived from it, there is a certain constitutional weakness of mind which, falling far short of Imbecility, may be regarded as predisposing an individual to mental derangement—that is to say, he might escape without injury many of the trials of life but for this limited mental calibre; but we shall not consider its influence here as we shall recur to this cause in the somato-ætiological chapter.

As has been pointed out by Dr. C. Browne, some of these cases may be due to protracted labour and the use of the forceps.

Consanguineous Marriages.—We may refer here briefly to the important question of the influence of *marriages of consanguinity*

upon the generation of Insanity. It is a very complex one, and in our judgment it is far from being thoroughly worked out. On the one hand, those who deny the ill effects of these unions point to such facts as the following (see especially Steinau's Essay on 'Hereditary Diseases' :)

Among animals, certain valued varieties are propagated within narrow limits, without their deterioration ; certain breeds of cattle and Arabian horses are noted for beauty and health while crossing has been studiously avoided. When deterioration occurs in animals among the offspring of parent and child, it is explained by the age of the former. Among men there are certain people, as the Indians of North America, among whom very little Insanity or Idiocy exists, and yet marriages within very near degrees of relationship are common ; some chiefs, also, in the South Sea Islands are remarkable for their strength and vigour, but are descended from a stock carefully limited in its alliances. The custom of the patriarchs is further adduced—the marriage of Abraham to his half sister, of Isaac to his first cousin once removed, and of Jacob to his first cousin, without any known injurious results.

These are the main circumstances brought forward in support of the innocuousness of the marriage of near relations, and they have a certain amount of weight, but they are not sufficient, the writer thinks, to set aside other facts on the oposite side of the question; at any rate, they do not justify us in encouraging the marriage of near cousins. Dr. Morel believes that experience shows the injurious influence of such unions, sooner or later "in a peremptory manner," and refers to the aristocracies of France. Dr. Bemiss has published some important facts bearing upon this question, which we extract from the 'Medico-Chirurgical Review' for July, 1860 :

"Of 31 children born of brother and sister, or parent and child, 29 were defective in one way or another ; 19 were idiotic, 1 epileptic, 5 scrofulous, and 11 deformed. Of 53 children born of uncle and niece, or aunt and nephew, 40 were defective; 1 deaf and dumb, 3 blind, 3 idiotic, 1 insane, 1 epileptic, 12 scrofulous, and 14 deformed. Of 234 children born of cousins, themselves the offspring of kindred parents, 126 were defective; 10 deaf and dumb, 12 blind, 30 idiotic, 3 insane, 4 epileptic, 44 scrofulous, and 9 deformed.

"Of 154 children born of double cousins, 42 were defective; 2 deaf and dumb, 2 blind, 4 idiotic, 6 insane, 2 epileptic, 10 scrofulous, and 2 deformed. Of 2778 children born of first cousins, 793 were defective; 117 deaf and dumb, 63 blind, 231 idiotic, 24 insane, 44 epileptic, 189 scrofulous, and 53 deformed. Of 513 children born of second cousins, 67 were defective; 9 deaf and dumb, 5 blind, 17 idiotic, 1 insane, 6 epileptic, 15 scrofulous, and 9 deformed. Of 59 children born of third cousins, 16 were defective; 3 deaf and dumb, 1 idiotic, 1 insane, 2 epileptic, and 10 scrofulous."

These facts are important, but they must not be taken as necessarily proving that intermarriage caused all these diseases. In many of these cases it cannot be doubted that the intemperance and immorality of the parents had a large share in producing insane and idiotic offspring.

Referring to the popular idea that the marriages of first cousins induce Phthisis and Insanity, Dr. Anstie says, "I have seen nothing to lead me to believe that this really occurs except in the instance where the family, two members of which thus breed in, is, or has been, somewhat strongly infected with the neurotic or the phthisical tendencies. But, doubtless, the reduplication in the children of a husband and wife, who belong to the same distinctly neurotic family, of the physical qualities that are the bane of the race, must multiply, in geometric rather than arithmetic ratio, the chances of disaster" ('The Journal of Mental Science,' January, 1872, p. 483).

At its Annual Session in 1869, the New York State Medical Society received the report of a Committee appointed to investigate the influence of consanguineous marriages, and the following important statistics, for which we are indebted to the 'American Journal of Insanity,' 1870, were obtained:—The offspring resulting from 32 marriages of consanguinity are tabulated—127 in number. There were 8, 11, 12, and in one family 14 children; making an average of 4 children to each marriage, and some of the couples were still productive (comparing favourably with the average of *three* children). Fourteen of the above 127 children died under 2 years, or 11 per cent., the average mortality in New York being 38 per cent. Of 12 who deviated from health, 5 were scrofulous, 2 were deaf-mutes, 1 epileptic, 1 "simple," 1 had amaurosis, and 2 a peculiar deformity. Of the scrofulous

children, one or both parents were either scrofulous or tuberculous in 6 cases.

In the next group there are three cases in which there was a predisposition to Insanity. In the first an uncle, aunt, and sister of the wife died insane, the husband was always in poor health; they have five children all in tolerable health. In the second case the husband and the wife's mother died insane; the children are all healthy; one, a daughter of the above, married a near relative and her children are free from any disease; they are now respectively 34, 32, 30, and 26 years old. Of the 14 remaining cases in which the parents had good constitutions the children are, without exception, healthy, some of them possessing decided genius as writers.

Dr. Jarvis, so well known for his devotion to all questions relating to Insanity and the Insane, in a letter addressed to Dr. Newman, who reported on behalf of this Committee, says that he believes that when the parents (being related) have both perfect constitutions, the offspring have a double security against imperfection; *the converse being also true.* Hence, the objection does not arise from "*the bare fact of their relationship,* but in the fear of their having similar vitiations of constitution." The practical inference is that first cousins should not marry unless both they and their ancestors have been free from Insanity. However healthy themselves, if a near ancestor has been insane, the physician when consulted must say "I forbid the banns." Although, therefore, it may be quite true that consanguinity in itself does not create mental disease, it is so difficult to ensure the sound constitutions of the parties marrying and of their ancestors that the marriage of those near of kin is rarely desirable.*

Relative Liability of the Sexes to Insanity.—The conclusion at which Cælius Aurelianus arrived that women are less subject to Insanity than men, has been disputed by Esquirol, Copland,

* The reader wishing to pursue the subject should refer to two able papers by Dr. Sedgwick "On the Influence of Sex in Hereditary Disease," in the 'Medico-Chirurgical Review,' April and June, 1863. See also an article by Dr. Child in the same Journal for April, 1862; Devay's 'Hygiene de Famille,' 2nd edit.; Burton's 'Anat. of Mel.;' Whitehead's 'Hereditary Disease;' Maudsley "On Hereditary Tendency," 'Journal of Mental Science,' Jan., 1863, and Jan., 1864; Marcé, 'Des Maladies Mentales;' Moreau (de Tours), 'Psychologie Morbide;' Dr. Arthur Mitchel, "Consanguineous Marriages," 'Edin. Med. Journ.,' 1865.

Burrows, and others. Dr. Haslam likewise stated, that "in our own climate women are more frequently afflicted with Insanity than men." Sufficient care, however, does not appear to have been taken to ascertain the relative number of males and females in the general population, a point obviously necessary to determine, before any just conclusion can be drawn as to the relative liability of the sexes to Insanity. These writers found the existing number of female lunatics greater than that of the males, and hence arrived at the conclusion that the female sex is more subject to Insanity than the male. Moreover, the preponderance of women over men at those periods of life during which Insanity most frequently occurs was not recognised by Esquirol. Dr. Thurnam, however, has clearly pointed out this source of fallacy, as well as that which arises from the fact that the mortality of insane men exceeds that of insane women by 50 per cent. Hence it is obvious that Esquirol erred in comparing the *existing* instead of the *occurring* cases of Insanity, in the male and female sexes. If, in our asylums, women live longer than men, they will, of course, proportionately accumulate.

The preponderance of females over males in England and Wales at the Census of 1871 was 623,302. This excess at all ages does not, however, prevent the proportion of insane appearing greater among women than men, viz. 1 to 364 of the former, and 1 to 412 of the latter. The number of females living above the age of fifteen exceeded that of the males at the same period of life by 8 per cent. This, of course, is the period of life which, owing to the *comparative* infrequency of Insanity before the age of fifteen, is very important in the present inquiry. Dr. Thurnam, taking the Census of 1841, found the excess to be "still greater" between the ages of twenty and fifty. But as we do not find this holds uniformly good, we cannot take this time of life for the purpose of explaining the apparently larger amount of Insanity among women than men. But we may still refer to the decade between twenty and thirty, the importance of which period will be seen when we speak of "age," and here we find the excess of females to be at a maximum. Between thirty and forty the excess is still considerable.

"In order that the comparison of the occurring cases be a strictly accurate one," observes Dr. Thurnam, "the proportions of the two sexes at the several ages *attacked with Insanity*, for the

first time, should be compared with the proportions in which the two sexes at the same ages *exist* in the community in which such cases occur. The nearest approximation to this method which we have the means of employing is, by assuming that the proportions of men and women *admitted* into public institutions during extensive periods, represent—as, on the whole, they probably do represent—the cases which *occur* for the first time" (op. cit. p. 149).

From an examination of a table prepared by this writer, we ascertain that, in twenty-four of the thirty-two asylums which it comprises, there has been a decided excess of men in the numbers admitted. In many British asylums, the excess amounts to 25, 30, and even 40 per cent.; and, in the whole number of thirty-two asylums, there is an average excess on the side of the male sex of 13·7 per cent. In the nine English county asylums contained in the table, the excess amounts to 12 per cent.

From the same table, it appears, that, in the asylums of the metropolis, the proportion of females admitted is much greater than in the provinces. This is in part accounted for by there being a considerable excess per cent. (13 per cent. at all ages, and 19 per cent. at all ages above 20) of women over men in the metropolis. Hence, the experience of Bethlem and St. Luke's led Dr. Webster to the conclusion that no doubt can exist regarding the greater frequency of mental alienation among females than males. Dr. Thurnam appears to regard it as probable, that the statistics of Insanity in France resemble, in this particular, those of the metropolis,* although, as has been pointed out, the method of inquiry adopted by Esquirol was vicious.

Dr. Jarvis, of Dorchester, Mass., has written an able treatise on the subject now under discussion; and after examining the statistics of asylums in Great Britain, Ireland, France, Belgium, and America, has arrived at the conclusion that "males are somewhat more liable to Insanity than females." He very properly shows, however, that the causes of Insanity which act upon males are more extensive than those which act upon females, and adds, that the above statement, in regard to the liability of the sexes, "must vary with different nations, different periods of the world, and different habits of the people" ('On the Comparative

* Even in the metropolis, however, in the asylums of the middle and upper classes of society, 38 per cent. more males than females were admitted.

Liability of Males and Females to Insanity, 1850'). On the whole, while it is clearly proved that, in general, fewer women, as was taught by Cælius Aurelianus, become insane than men, it is difficult to establish that the female sex is intrinsically less susceptible to the causes of Insanity than the male, since the former is less exposed to those causes than the latter. At least, to establish the greater intrinsic liability of females, it must be shown that they are exposed to the predisposing and exciting causes of Insanity to as great an extent as males.

This, however, does not alter the fact that Esquirol's conclusion is reversed, when we take into account the great excess of females in the population between the ages of twenty and forty (the age specially subject to attacks of Insanity), the accumulation of females in asylums by reason of their low mortality, and the fallacy of drawing conclusions from existing instead of occurring cases. Finally, the fact remains that the admission of men into the asylums of Britain (and, according to the table prepared by Dr. Jarvis, into those of America, Belgium, France, and Germany), is greater than those of women.

Age.—Without reference to cases of Idiocy and Imbecility it may be observed that no age is exempt from attacks of Insanity. Such attacks, it is true, are comparatively infrequent under fourteen or fifteen years of age. Scattered throughout this work, however, will be found a considerable number of references to cases of Insanity under puberty, and they might have been considerably increased. They are met with in private practice much more frequently than in asylums, the statistics of which, therefore, give too favourable an impression as to the frequency of attacks of Insanity in children. Between fifteen and twenty attacks increase; while between twenty and fifty they are the most frequent. Whether they preponderate between twenty and thirty, or thirty and forty, may admit of question.

During the forty-four years between 1796 and 1840, of those admitted at the Retreat, the greater number, one third of the whole, were *attacked* between twenty and thirty years of age. Each subsequent decennial period is marked by a gradually decreasing proportion. Thus:—

Of every hundred cases, at the origin of the disorder, there were, at successive decennial periods of life, as follows ('Statistics of Insanity,' p. 71):—

0–10	10–20	20–30	30–40	40–50	50–60	60–70	70–80	80–90	
·96	12·77	32·53	20·	15·9	10·6	6·03	·97	·24	= 100

Now, it is obvious that, to render these statistics of any value, they must be compared with the numbers living in the same community at the same periods of life. This means of comparison (not available when Dr. Thurnam wrote) we afford in the following table :—

Of every hundred individuals there were living in 1847, at successive decennial periods of life, as follows :—

0–10	10–20	20–30	30–40	40–50	50–60	60–70	70–80	80–90	
16·7	18·9	15·4	12·4	11·9	10·8	7·8	4·9	1·2	= 100

From which it is evident that the large proportion of persons who became insane (of those admitted at the Retreat) between twenty and thirty years of age, cannot be explained by the greater proportion of the number living at that period.

When the whole of this series is worked out the order of frequency of attack, in the decennial periods, was as follows :— 20—30 (maximum); 30—40, 40—50, 50—60, 60—70, 10—20, 70—80, 80—90, 0—10 (minimum). It will be seen from this that, not reckoning attacks prior to man's majority, the decades follow in their natural order. With regard to the decade 20—30, the experience of the American asylums and some others, including that of Turin (Bertolini's tables), accords with the above result. If the experience of these institutions can be taken as fairly representing asylums generally, we should infer the increased liability of man to Insanity between the ages of 20 and 30, or that during this period he is brought into contact with an increased number of the causes of Insanity; probably both. The admissions into many other asylums do not, however, exhibit a similar preponderance between 20 and 30, but between 30 and 40. It must be remembered that *admissions* do not necessarily agree with the periods of *attack*, and that, therefore, such preponderance in the latter decade might be true of admissions, and not of attacks; but it would seem, from a table prepared by Dr. Thurnam, exhibiting from various asylums in Britain the period of attack, that the larger number of cases of Insanity occurred between 30 and 40, not, as at the Retreat, Turin, and the asylums of America, between 20 and 30. Also, in these asylums more become insane between 40 and 50 than between 20 and 30. But

it is probable that, while this may be true of pauper lunatics, there would, among the upper classes, be a larger proportion of attacks between 20 and 30 than 40 and 50. Be this, however, as it may, Insanity is more frequent in manhood and in middle life than subsequently from 50 and upwards. The order of frequency in decennial periods is, according to the above statistics, as follows :—30—40 (maximum) ; 40—50, 20—30, 50—60, 60—70, 10—20, 70—80, 80—90 (minimum).

In the Report of the Poor Law Board for 1859-60 an attempt is made to determine the age at the time of attack of 13,672 lunatics chargeable to the Poor Rates, January 1st, 1859. We have compared these returns with the numbers living at the same ages in the general population, and, with this correction, find the succession of decades to be as follows :—30—40 (maximum) ; 40—50, 50—60, 20—30, 60—70, 70—80, 80—90, 10—20. We should suppose that in a large proportion of cases the age when the disorder *first* manifested itself was not accurately ascertained. Although, however, an imperfect return of this kind must have the effect of post dating the age specially liable to attacks of Insanity, there is considerable agreement between it and the last given decennial series, and when males only are taken, the agreement is almost complete.

The fallacy of taking merely *admissions* (and re-admissions) may be shown from the Report of the Commissioners in Lunacy for 1861, in which a return is given of admissions, during five years, into all the asylums in England and Wales, in decennial periods, amounting to 36,490 cases. We can calculate from these returns that of every hundred cases admitted or re-admitted at successive decenniums there were :—

0–15	15–20	20–30	30–40	40–50	50–60	60–70	60–70 and upwards.
1·46	5·11	20·87	24·80	31·32	14·41	8·47	3·58 = 100.

At the same periods of life there were living at the census of 1851—

0–15	15–20	20–30	30–40	40–50	50–60	60–70	70 and upwards.
35·44	9·96	17·15	13·36	9·98	6·96	4·40	2·75 = 100

From working these figures together it will be found that the admissions were, as regards age, in the following order of frequency :—40—50 (maximum) ; 50—60, 60—70, 30—40, 70 and upwards, 20—30, 15—20, under 15 (minimum). It will be

seen that the order of decades differs considerably from those already given, when the actual age at attack formed the basis of calculation. It is clear that when re-admissions are not excluded the periods of life specially subject to Insanity will be thrown later than is really the fact.

The Roman ages of man, according to the division of Varro, were five in number, ending with 15, 30, 45, 60, 75 and upwards. The first may be made to comprise the risks to which the embryo, the suckling, the tooth-cutting child, and the youth arrived at puberty, are exposed; it is the age of Idiocy and Imbecility, but none of the foregoing statistics exhibit congenital disease; we have no account of the number of idiots annually *born* to compare with the total number of births. This fact must be borne in mind in regard to attacks of Insanity "under 15." The second age develops the passions of manhood, and adds marriage, external excitement, and the struggles of early manhood; the liability to Insanity is greatly increased, and, according to the statistics of some institutions, attains its maximum. The third epoch, ending with 45, witnesses the termination of the reproductive age of woman; with man it is the period of hopes and disappointments, of greater strain and anxiety, but also of greatly augmented capacity and knowledge. Shall we say it is man's age of civilisation? It is, at any rate, that which statistics at present point to as the one during which, in Britain, a majority of persons appear to become insane. The fourth epoch, if in some respects one of still greater consolidation and matured wisdom, does not close without some indications of declining power; the tendency to Insanity is less. The fifth age succeeds man's grand climacteric; the liability to acute attacks of mental disease is still smaller; but ere it terminates, man becomes subject to mental decay or second childhood; the "pitcher is broken at the fountain, and the wheel at the cistern."*

The Seasons; Climate.—M. Parchappe has supplied us with some carefully prepared statistics on this subject. Thus, he

* While these pages are passing through the press we have received from Dr. Pliny Earle, the Superintendent of the Northampton Lunatic Hospital (Mass.), his valuable compendium of the medical statistics of that asylum relative to the admission of 1074 patients. As already stated, in regard to American asylums generally, the liability to attack is shown to be greatest between 20 and 30 years of age. Then follow:—30—40; 40—50; 50—60; 60—70; 10—20; 70—80. These calculations take into account the numbers living at these periods of life in the general population.

found that out of 2669 admissions, the period of the year was as follows:

	During the Six Summer Months. (March—August.)		During the Six Winter Months. (September—February.)	
	No.	Prop. in 100.	No.	Prop. in 100.
Men . . .	779	56·0	612	44·0
Women . .	668	52·3	610	47·7
Both Sexes .	1447	54·2	1222	45·8

This result—the greater frequency of Insanity in the summer months—accords with the experience of Esquirol; but it must be borne in mind that *admissions* and *attacks* are not identical, although we believe the result would be much the same if we could ascertain the period of attack—that is, the outbreak of symptoms so decided as to claim the notice of the friends of the patient.

Guislain observes that there is a relation between the warmth of the atmosphere and mental disturbance. A fall of temperature, on the other hand, often calms the insane. MM. Aubanel and Thore observe, as the result of their investigations, that the month of June appears (in France, at least) to have the most influence in producing Insanity, then July and August, next May and April, January having the least influence. Periodical Insanity is especially manifested in the spring.

The question of the influence of climate would seem intimately connected with that of the seasons; but, as Guislain observes, "we do not, as might have been expected, find more Insanity in hot climates than in cold." He regards this as a proof that it requires the predisposition to Insanity before the injurious effects of heat can be experienced.

[For information respecting the influence of seasons on suicide, see the section on Suicidal Insanity in this work.]

Moon.—Of the alleged influence of the luminary to which "lunacy" and "moonstruck" owe their etymology, it is necessary to speak briefly. The operation of the stars, if not the moon, on disease, was recognised by Hippocrates, and that of the latter was

certainly admitted by Galen. From ancient to modern times the idea gained rather than lost strength, and Milton expressed a real belief, not a mere poetical figure, in the lines—

> "Demoniac phrenzy, moping melancholy,
> And *moonstruck* madness."

Rush believed that there was an equal amount of truth on the side of those who admit and those who deny the influence of the moon, and reconciled the two by supposing there to be a kind of sixth sense—a perception of the state of the air and of light and darkness, to which we are insensible in health, and that the full moon rarefies the air and increases the amount of light, and so acts upon the insane. He thought that probably few in asylums had the requisite predisposition or sensibility; and hence observers overlooked the fact. Dr. Rush notices, in connection with the observation that light in itself tends to excite, and darkness to calm many of the insane, that during the eclipse of the sun in 1806 "there was a sudden and total silence in all the cells of the hospital." His conclusion on the whole question was that the cases are few in which the insane feel the influence of the moon, and that mere increase of light is sufficient to explain excitement in such cases ('Med. Enquiries,' &c., p. 170).

Esquirol, who derived *μανία* from *μηνη*, and connects it with the superstitious belief of the ancient idolaters in astrology, observes, after quoting Daguin's 'Philosophie de la Folie' in favour of the influence of the moon, "Certain isolated facts and phenomena observed in many nervous diseases would seem to justify this opinion," but adds, "I have been unable to verify this influence, though I have been at some pains to assure myself of it. It is true that the insane are more agitated at the full moon as they are also at the early dawn of day; but is it not the bright light of the moon that excites them, as that of day every morning? Does not this brightness produce in their rooms an effect of light which frightens one, rejoices another, and agitates all? I am convinced of this last effect from causing the windows of certain insane persons who had been committed to my charge as lunatics to be carefully closed." He says nothing at the Salpêtrière or the Bicêtre confirmed the idea. "Nevertheless," he says, "an opinion which has existed for ages—which has spread over all lands, and which is consecrated by

popular language—demands the most careful attention of observers" ('Maladies Mentales,' tom. i, p. 29).

Such attention may be said to have been given, and with negative results like those obtained by Leuret and Mitivié, who, in their work 'De la fréquence du pouls chez les aliénés,' represented by engravings the phases of the moon and the daily pulsations of the insane, during a month in summer and one in winter.

Rush's fellow-countryman, Dr. S. B. Woodward, after a careful comparison of ninety cases of death with the phases of the moon, failed to find any relation between them, and says, "These facts and coincidences we leave for the present with the single remark that no theory seems to be supported by them, which has existed either among the ignorant, or the wise men who have been believers in the influence of the moon upon the insane."

From a Report of this asylum (1848) we find that the superintendent, Dr. Hopkins, agrees with this opinion, and says, "Many patients are certainly more excitable and restless on pleasant moonlight nights than in dark and gloomy weather; but this would seem to be occasioned by the real or imaginary sight of objects in or without the building, such as men, trees, animals, &c., or the motion, perhaps, of the passing clouds."

Observations were made at the York Lunatic Asylum by Dr. Allen, the superintendent, about half a century ago, from which he came to the conclusion that the influence of the moon on the *period of death* was very decided, and he connected this with the increase of excitement occurring at the new and full moons. At the York Retreat Dr. Thurnam, struck by these results, constructed a table showing the age of the moon at the time of the occurrence of 139 deaths (1796—1840), a much larger number than those on which Dr. Allen's conclusions were based, and the result was that his observations received no confirmation whatever; thus, while the York Asylum table shows 15 deaths at the new moon, 11 deaths at the full moon,* only 1 death at the first, and 3 deaths at the last quarter; the Retreat shows for the corresponding periods 40, 33, 34 and 32 deaths. Taking Dr. Woodward's ninety cases already referred to, their relation to the same

* Mr. L. Howard found that the barometer is affected by the changes of the moon, being lower with the new and full moon and higher at the first and last quarters This receives general confirmation from the Falmouth Observatory.

quarters was found to be 20, 21, 22, 27 respectively. So that neither at the Retreat nor at the Worcester Asylum (U. S.) was there any special morbid influence exerted at the new and full moon, compared with the first and last quarters, as appeared to be the case at the York Asylum from insufficient data.* (See Allen's 'Cases of Insanity,' pp. 76—104; 'Annual Report of the Worcester Asylum, 1841,' and 'The Statistics of the Retreat,' pp. 113—117. Mead, 'De imperio solis et lunæ in corpore humanâ et morbis;' Orton, 'On Cholera.' Laycock, 'Lancet,' 1842-3, 'On Lunar Influence;' Arago, 'Meteorological Essays.' Dr. Lardner, 'On Lunar Influence;' Winslow, 'Psych. Journ.,' 1856).

Occupation, Town and Country Life, &c.—Dr. Prichard states that "a most remarkable difference is found in the proportional number of lunatics in agricultural and in manufacturing districts. Previous to inquiry, we should conjecture that the causes of Insanity would have more influence, and the disease be more prevalent, in a manufacturing than in an agricultural population; but the contrary is the fact" ('Treatise,' &c., p. 334).

Dr. Parchappe arrived at the conclusion of Dr. Prichard, that, so far as regards the population of the Lower Seine, the country people are less affected with Insanity than the town people; in support of which he gives the following tabular analysis:

	Population.		Admissions at St. Yon.		Prop. per 1,000.	
Town of Rouen . .	96,002		965		10·05	
„ Havre . .	27,254		106		3·90	
„ Dieppe . .	16,443	154,345	79	1,203	4·80	7·79
„ Elbeuf . .	14,646		53		3·61	
Arrond. of Rouen . .	107,573		156		2·41	
„ Havre . .	78,692		85		1·08	
„ Yvetot . .	124,208	480,881	156	581	1·25	1·42
„ Dieppe . .	91,954		102		1·10	
„ Neufchât .	78,654		82		1·04	

To these figures Dr. Parchappe adds:—"It is proper to note that, for many years, the hospital of Havre has provided a special quarter for the indigent insane of the town; so that, during this period, no patients of this description have been sent to St. Yon. This exceptional circumstance accounts for the small proportion of insane which our abstract exhibits for the second town of the department.

* It will be observed that whatever evidence has been adduced of fluctuations in the excitement of the insane in connection with the moon, none whatever is alleged to exist *as a cause of lunacy.*

"Thus, we may legitimately conclude, from the facts collected at the asylum, that the circumstances which surround the inhabitants of the great centres of population in the Lower Seine, constitute for them a predisposing cause of mental alienation." 'Notice Statistique sur les Aliénés de la Seine Inférieure,' p. 30. A similar, though not so great a disproportion of insane persons with respect to our country (as indicated by Dr. Parchappe) holds good in regard to Norway.

The large experience of Dr. Guislain led him to the same result. Further, the excellent French 'Lunacy Reports' of M. Béhic show that, as regards the whole of France, the amount of Insanity among the "professions agricoles" is very low, while it is high in the "professions libérales." It seems that the French peasant is much more favorably situated than the English agricultural labourer.

In former editions we entered fully into the question of the relative amount of pauper Insanity in the agricultural and manufacturing districts.

We are not aware that the line of argument we formerly pursued is fallacious; but, as we then said, the bearing of the statistics of pauper lunacy upon the questions which they are supposed to decide is very difficult to determine.

It is fully admitted that if in England and Wales we take the proportion of pauper lunatics to the population (not to paupers) in each county, there are more in the agricultural than the manufacturing counties; for example, Lancaster and the West Riding of Yorkshire are below the average of England and Wales, and Dorset and Wilts above the average; Norfolk being highest of all. The figures supporting this statement are of interest, and we do not ignore them, even if they are, to some extent, open to objection as evidence of the fact in favour of which they are adduced. On the other hand, we find from the Scotch Annual Report (1872), that as regards Scotland the counties in which the production of pauper launacy was above the average during twelve years 1858-70 were those of Aberdeen, Argyll, Dumfries, Edinburgh, Forfar, Haddington, Lanark, Perth, and Renfrew, which include the chief towns and manufacturing districts. Two counties, however, Argyllshire and Perthshire, are stated to have a decreasing population (from emigration) and inferentially a decreasing industry. The Commissioners point out, as we have already done in former

editions, that as pauper lunacy has a twofold origin, pauperism and lunacy itself, the difficulty of ascertaining the real conditions of its production is very great. "In one county, pauperism may be the predominating element, and in another lunacy." In these two counties the bodily feebleness of the remaining population augments the pauperism, and mental feebleness augments the registered number of lunatics.* They refer the increase of pauper lunacy in the large towns and manufacturing districts to "exhaustion of the physical powers through overwork, bad house accommodation, want of proper relaxation, intemperance, inappropriate diet, and sexual incontinence,—in short, to a persistent neglect of those natural laws on the observance of which health depends." A table is given of the amount of *occurring* pauper lunacy in the different counties and one of the amount of *existing* or accumulated pauper lunacy (to which the reader is referred), and as is pointed out in this work, as well as in the Report, the *quality* of the former must materially affect the latter. After referring to one element of this quality—fatal forms of Insanity or general paralysis, as tending to reduce the amount of existing or accumulated *urban* insanity—the Commissioners make the frank confession, "the facts before us are so complex that we cannot as yet see our way to any trustworthy conclusions."

With regard to *particular occupations* it is much to be regretted that any inferences should be drawn from the absolute number of patients following them, instead of from the proportion to the numbers in the population at large. Thus, if we take the number of clergymen and lawyers admitted at Bethlem Hospital during a certain period, we find them equal; and the inference might be drawn that they are equally liable to mental disease. But a calculation of the proportion to the numbers in the general population enables us to show the fallacy of such a conclusion. From this, it appears that lawyers are about doubly liable (as might have been anticipated) to this disorder. It is true that in comparing these two professions with that of medicine, both the absolute and

* Dr. Thurnam also, in his Annual Report, 1870, says, speaking of Wilts, that during 1851–61 there was a very considerable exodus of the labouring population. As it would, as a rule, be the more healthy and energetic men who would leave their homes, there would result an increase in the relative proportion of the bodily and mentally weak, and the effect would hardly be other than that of filling the union houses and indirectly augmenting the proportion, perhaps even the numbers, of the insane.

proportionate result are essentially the same; that is to say, the Bethlem table, which is not calculated with reference to the number of persons similarly engaged in England, and one which is so calculated, give the same result on this point, but it is a mere concidence. In the first edition of this work we gave a table showing the relative proportion of the insane to the sane in the various callings and occupations; the number of insane labourers, professional men, &c., in every 1000 sane. While this is clearly the only satisfactory way of arriving at sound conclusions as to the influence of occupations on the mind, we conclude to omit these statistics, on account of the imperfection of the returns of the occupations of insane persons in the Census. We must be content to wait until we have more correct statistics within our reach, showing the relation between occupation and insanity. The statistics prepared by Dr. Pliny Earle referred to at page 83 bear on this subject. He says in reference to the large number of farmers who appear from his tables to be insane, "Let us not hastily infer that, of all classes, farmers are the most subject to mental disorders. Nothing could be more erroneous. In the four counties from which the hospital chiefly derives its inmates, agriculturists are overwhelmingly more numerous than any other section of the population. So far as mere employment is concerned, as a generative cause of Insanity, the farmer is unquestionably less liable to that disorder than perhaps any other person. He is in a sphere more nearly natural than the artisans, the mechanics, and the professional men, of a civilisation abounding with artificial conditions and influences."

Civilisation.—Instead of entering fully as in previous editions into the consideration of the influence of civilisation as a cause or otherwise of Insanity, we shall give the conclusions at which we arrived and to which we adhere:

1. That, while the greater facilities which exist in civilised countries for obtaining a knowledge of the number of the insane, and the greater degree in which the disease is recognised, render any just comparison very difficult, and tend to show a much larger proportion than is actually the case, there can be little doubt, nevertheless, after making due allowance for this source of error, that Insanity attains its maximum development among civilised nations; remaining at a minimum among barbarous nations.

2. That, having regard to the main causes of Insanity, there

can be no reasonable doubt that, in modern civilised society, these outweigh the circumstances which might be supposed to favour mental health; these unfavorable causes being principally, the increased susceptibility of the emotions to slight impressions—the abuse of stimulants—the overwork to which the brain is subjected, especially in early life, by an overwrought system of education—and that condition of the lower classes which is a constant attendant upon civilisation—the higher emotions or moral sentiments, the lower propensities, and the intellectual faculties, being thus all subjected, separately or combined, to an amount of excitement unknown to savage tribes.

3. That, inasmuch as all civilisation is, up to the present time, to be regarded as imperfect and transitionary, it does not necessarily follow from the foregoing, that civilisation carried out to its perfect development—a civilisation which should exactly temper the force of the emotions, moderate intellectual exertion, and banish intemperance—would generate mental disease. Even such a condition of society as this, however (which, it is to be feared, will never be realised), would, we believe, present more danger to the integrity of the great centre of the nervous system than a state of barbarism.*

If these conclusions be correct, and if as far as England and Wales are concerned it be true that in proportion to the population of each county there are more pauper lunatics in the agricultural than in the manufacturing districts, we may say that—

Two great facts come out of this inquiry which appear at first sight to be contradictory, but which on examination are not in the least so, and are entirely consistent with the principles which medical psychology teaches. The one is that the liability to Insanity is infinitely less among savages than among civilised nations; less, for example, among the North American Indians than the French or English; and less, it may be added, among a people presenting a peculiar and stationary form of civilisation like the Chinese than

* Dr. Earle, in the Report already made use of, speaking of those results of modern civilisation which are injurious, says, "Where these effects will end no prophet now can tell. But unless the race adapts itself more consistently and wisely to the change of circumstances, the prospect is anything but cheering to him who would wish to see a diminution, rather than an augmentation, of mental disorders."

among Europeans. The other fact is this: that the liability to Insanity among the lowest—the most ignorant and degraded—class of a civilised people is greater than among the higher and educated classes. The mistake has been made of regarding as identical the condition of the savage and the English pauper, simply because both are ignorant. But here the similarity ceases; when, therefore, we are told that Insanity is a disease, not of civilisation, but of ignorance, the truth of the statement cannot be admitted, if the speaker is comparing civilisation and barbarism—the intellectual and civilised man, with the ignorant savage. It is only true when by the terms employed it is intended to convey the idea that in a nation presenting the complex conditions of modern civilisation, the ignorant and degraded will supply a larger proportion of cases of Insanity than the more sober and better educated, not because they are ignorant but because they are degraded. The confusion of terms now referred to is well illustrated by the common expression we employ in speaking of our "City Arabs" who differ from their prototypes in all important particulars in reference to the characteristics of barbarism and civilisation.

The increased liability to Insanity of a civilised over an uncivilised nation arises, then, from two very opposite causes. Both, however, have undoubtedly hitherto been (and probably always will be) the concomitants of what every one understands as civilisation. On the one hand, then, we have that severe—we might say desperate—intellectual and emotional strain which we affirm develops more Insanity than the opposite condition presented by the wild barbarian; and on the other hand, at the opposite end of the social scale, we have to contend with that accompaniment, if not product (however debased), of modern civilisation, an impoverished class with brains ill nourished and yet frenzied by drink—themselves exposed, in consequence, to the risk of madness, and if fortunate enough to escape, certain in a large number of instances to sow the seeds of Imbecility or Insanity in their children. In such a conclusion there is nothing to damp the energies of the educator. The practical deduction from these propositions is that while we should advise a nation of savages to remain as they are (having regard simply to the liability to mental disorder), even if by changing their condition they should attain to the state of the higher classes of a civilised nation; we should as strongly and quite consistently advise the savages in a civilised

community to change their condition and join the ranks of the well-nourished, well-educated, well-trained and sober classes.

Pauperism.—The relations between poverty and Insanity may be further illustrated by the following tables.

TABLE I, *showing proportion of paupers to the population in the counties of England and Wales, calculated on the Census of* 1871, *and the Poor Law Returns of* 1871.

County.	Proportion.	County.	Proportion
Derby	1 to 34	South Wales	1 to 17
Chester	„ 32	Gloucester	„ 17
York, West Riding	„ 32	Devon	„ 17
York, East Riding	„ 31	Hunts	„ 17
Lancaster	„ 31	Rutland	„ 17
Westmoreland	„ 30	Sussex	„ 16
Durham	„ 29	Northampton	„ 16
York, North Riding	„ 28	Hants	„ 16
Warwick	„ 27	Berks	„ 15
Cumberland	„ 25	Oxford	„ 14
Worcester	„ 24	Herts	„ 14
Nottingham	„ 24	Somerset	„ 14
Salop	„ 24	Suffolk	„ 14
Stafford	„ 23	Beds	„ 14
Northumberland	„ 22	Cambridge	„ 14
Leicester	„ 21	North Wales	„ 14
Cornwall	„ 19	Norfolk	„ 13
Lincoln	„ 19	Bucks	„ 13
Monmouth	„ 19	Essex	„ 13
Surrey	„ 19	Wilts	„ 12
Middlesex	„ 19	Dorset	„ 12
Hereford	„ 18	Kent	„ 12

TABLE II, *showing the proportion of pauper lunatics to the population of the counties of England and Wales, calculated on the Census of* 1871, *and the Lunacy Report of* 1872.

County.	Proportion.	County.	Proportion.
Durham	1 to 774	Lancashire	1 to 493
Stafford	„ 699	Northumberland	„ 492
York, West Riding	„ 662	Cumberland	„ 484
Cornwall	„ 633	South Wales	„ 466
Chester	„ 538	Nottingham	„ 463
Derby	„ 527	Kent	„ 444
Westmoreland	„ 516	Cambridge	„ 442
York, North Riding	„ 513	Hunts	„ 433
„ East Riding	„ 495	North Wales	„ 427
Lincoln	„ 495	Essex	„ 423

County.	Proportion.	County.	Proportion
Devon	1 to 417	Dorset	1 to 381
Warwick	„ 407	Herts	„ 361
Beds	„ 404	Bucks	„ 353
Rutland	„ 403	Middlesex	„ 327
Surrey	„ 399	Leicester	„ 322
Northampton	„ 398	Gloucester	„ 322
Sussex	„ 394	Oxford	„ 318
Somerset	„ 394	Wilts	„ 318
Suffolk	„ 393	Worcester	„ 304
Monmouth	„ 391	Berks	„ 302
Hants	„ 389	Hereford	„ 295
Salop	„ 383	Norfolk	„ 287

TABLE III, *showing the proportion of pauper lunatics to paupers in the counties of England and Wales, calculated on the Poor Law Returns of* 1871.

County.	Proportion.	County.	Proportion.
Cornwall	1 to 32	Surrey	1 to 23
Cambridge	„ 31	Oxford	„ 23
Essex	„ 31	Northumberland	„ 22
North Wales	„ 31	Monmouth	„ 21
Dorset	„ 30	Berks	„ 21
Durham	„ 29	York, West Riding	„ 21
Beds	„ 28	Stafford	„ 21
Norfolk	„ 28	Middlesex	„ 20
Suffolk	„ 28	York, North Riding	„ 19
Herts	„ 28	Cumberland	„ 19
Somerset	„ 27	Gloucester	„ 18
South Wales	„ 27	Hereford	„ 18
Bucks	„ 26	Lancaster	„ 18
Rutland	„ 26	Notts	„ 18
Wilts	„ 26	Worcester	„ 18
Hants	„ 25	York, East Riding	„ 17
Devon	„ 25	Chester	„ 17
Northampton	„ 25	Westmoreland	„ 16
Lincoln	„ 25	Derby	„ 16
Sussex	„ 24	Salop	„ 15
Kent	„ 24	Leicester	„ 15
Hunts	„ 24	Warwick	„ 14

Marriage.—M. Parchappe analysed the condition, with regard to marriage, of 17,932 patients, in various asylums, and calculated that 49 per cent. were single, while 40 per cent. were married. Eleven per cent. were widowed.

Very similar relative results (taking both sexes) are obtained when the admitted civil condition of the patients during a certain

number of years at the Bicêtre and Salpêtrière is compared with the corresponding civil condition of the population in Paris. Thus as regards these asylums, there were :

	Men.		Women.		Both sexes.
Unmarried	41·6	.....	39·5	.....	40·4
Married	47·0	.....	40·3	.....	43·2
Widowed	10·4	.....	20·0	.....	16·3

while in Paris there were :

	Men.		Women.		Both sexes.
Unmarried	31·0	.....	29·4	.....	30·2
Married	62·3	.....	51·4	.....	56·2
Widowed.....	6·6	.....	19·0	.....	13·4

While as regards the males admitted at the above asylums there were rather more married than unmarried, it will be seen that, as compared with the population at large, the number of celibates was really much larger in the asylums. It appears, in fact, that while there were just twice as many married as unmarried living in Paris above the age of 20, not far from as many per cent. of unmarried men were admitted into the Salpêtrière and Bicêtre as married. The inference drawn from this and similar tables in regard to the influence of celibates is somewhat qualified by the fact that the proportion of married persons between 25 and 40 (so important a period in regard to admissions) is less than in the adult population taken as a whole, *i. e.* from 20 and upwards. And so in regard to the two sexes, while the difference between the married and those who had never been married was 26 per cent. in the population of Paris; of those admitted into the asylums for the insane for that city, the proportion of unmarried was so greatly increased as to diminish the difference between them and the married to 3·1 per cent. Further, if the widowed and those who had never been married be added together, we shall find that, in the population of Paris, they yield a proportion of 43·6 per cent., while those actually married constituted 56·2 per cent. On the other hand, if we take the statistics of the asylums referred to, the proportions are precisely reversed, the addition

* The inference drawn from this and similar tables in regard to the influence of celibacy is somewhat qualified by the fact that the proportion of married persons between twenty-five and forty (so important a period in regard to admissions) is less than in the adult population taken as a whole, *i.e.* from twenty and upwards.

of the widows, and those who have never been married yielding 56·7 per cent., while those actually married equal 43·2 per cent. We may therefore agree with the conclusion of Dr. Parchappe that celibacy as well as widowhood is to be regarded as a predisposing cause of Insanity in both sexes. He adds, that celibacy appears to act almost equally on men and women, but that widowhood exercises more influence upon the former, so that the married state is a greater preservative against Insanity with men than with women. ('Rech. Stat. sur les Causes de l'Aliénation Ment.,' par M. Parchappe, p. 42.)

The experience of the Retreat has very decidedly shown that, of the patients therein admitted, a large majority had never been married, namely, two thirds. It appears from Dr. Needham's Report for 1872, which contains some carefully prepared statistics, that at the York Asylum, during the last twenty-seven years, of 1029 admissions, 476 were single, 443 married. Male admissions numbered 603, of whom 278 were single, 257 married and 68 widowed. Female admissions 426, of whom 198 were single, 186 married and 42 widowed. We find that out of 1426 patients admitted into Colney Hatch Asylum during four years, their condition, with regard to marriage, was as follows:

Unmarried.	Married.	Widowed.
645, or 45·23 per cent.	643, or 45·09 per cent.	138, or 9·68 per cent.

Now it appears, from the Census of 1851,* that the condition of the entire population of Great Britain (aged twenty and upwards) was, in respect of marriage, as follows:

	Unmarried.	Married.	Widowed.
Males.....	30·9 per cent.	62·09 per cent.	7·0 per cent.
Females.....	29·5 „	57·3 „	13·2 „

If, then, the preceding tables be compared, and the number of admissions under the three divisions in regard to marriage be compared with the numbers living in the population at large under the same divisions, it will be found that, although there are nearly twice as many married as unmarried persons in Great Britain, there is a slight excess of the latter over the former in Colney Hatch Asylum. By a similar calculation we find the proportion still larger in the Wilts County Asylum.

* In this and in some other instances in which the relative numbers would not be affected by taking a more recent Census, it has not been thought necessary to alter the figures.

So that it appears that, not only was there a greater absolute number of patients admitted into Colney Hatch Asylum (even after excluding the idiotic) who had never been married, but also a greater number relatively to the persons unmarried in Great Britain. Of course, in this calculation it is assumed that the conjugal condition of the locality from which patients are sent to Colney Hatch is not very different from that furnished by the Census of the general population.

As stated in the foot-note, p. 95, it is more correct to make some allowance for the fewer married persons living between the ages of twenty-five and forty, than at twenty and upwards. The reader will see this from the following statement of the proportions of the married and unmarried in Great Britain in 1851, between the ages of twenty and forty (compare with last table).

	Unmarried.		Married.		Widowed.
Males.....	46·2 per cent.	...	52·2 per cent.	...	1·6 per cent.
Females.....	42·0 „	...	55·1 „	...	2·9 „

MM. Aubanal and Thore ascertained the condition of 8603 patients in various asylums on the Continent and in America as follows:—Unmarried, 4395; married, 2908; widowed, 401; unknown, 899. They support M. Parchappe, and say "it is evident that celibacy predisposes to Insanity." In a recent Lunacy Report prepared by M. Béhic it is stated that in France the number of unmarried persons admitted is 50 per cent. in excess of the married.*

It must not, however, be overlooked, that one reason why Celibacy and Insanity are so much connected is, that the mental peculiarities of patients, often exhibited in years previous to their admission, have prevented marriage. It should also be remembered that in some instances, unmarried persons becoming insane would be removed to an asylum and increase the official returns of lunacy, whereas, if married, they might have been cared for in their own homes. We should certainly make a considerable deduction for these circumstances, but we should still have no doubt that, given a certain number of celibates and of

* Dr. Earle's tables, on the contrary, show a closer approximation between the married and single in both sexes; but the social condition of the general population is not given; with regard to the influence of widowhood, his figures do not accord with those of M. Parchappe, and he concludes that "the grief, the anxiety, the care, and the labour consequent upon the loss of a spouse, operate much more effectively among women than among men as producers of Insanity."

married men, with the same mental proclivities, there would be more likelihood of Insanity occurring in the former class; in other words celibacy constitutes a predisposing cause.

In concluding the consideration of the predisposing causes of Insanity, we may add, for the information of the reader that, under this head, the International Congress in 1867 decided to include hereditary influence, pure consanguinity, great difference of age between parents, influence of soil, of surroundings; convulsions or emotions of the mother during gestation; epilepsy; other nervous affections; pregnancy; lactation; menstrual period; critical age; puberty; intemperance (habitual excess, dating far back); venereal excess and onanism.

Exciting Causes.

The exciting or determining causes of Insanity, like the predisposing, are usually divided into moral and physical. Arbitrary as this division often proves, we shall not reject it. The predisposing are mainly, if not altogether, physical; but the exciting are to a large extent, moral. Lucas emphatically denies the propriety of regarding one predisposing cause, hereditary predisposition, as altogether physical. It is with him "only a transmission and reflection in the descendants of *two orders* of causes and in each order, of all the species of the causes producing Insanity with the progenitors. It is the expression, the organic incarnation, of all the originating causes of the malady in the descendants, independently of the forms which it assumes, and of the nature of the affections or commotions which have determined it in the ancestors." It is with him *neutral*; "being the representative of all causes, it is the exclusive privilege of none." It is both moral and physical. With the object of gaining information on the causes of Insanity in general, we have analysed the returns of a large number of asylums, English, American, and Continental. The total number of cases in which the cause was ascertained, after excluding hereditary predisposition, congenital condition, and old age, amounted to 30,087. On the whole, we have found a very marked agreement between the results of the various asylums, the statistics of which we have consulted.

First, we find that among physical causes the following was, for the most part, their order of frequency:

Intemperance.
Epilepsy.
Affections of Head and Spine.
Uterine Disorders, viz. those of { Menstruation, Pregnancy, Parturition, Lactation.
Sexual Vice.
Fever and Febrile Diseases.

Secondly, as regards moral causes, their order was as follows:

Domestic Troubles and Grief.
Religious Anxiety and Excitement.
Disappointed Affections.
Fear and Fright.
Intense Study.
Political and other Excitement (Joy, &c.).
Wounded Feelings.

Or, without reference to the division into physical and moral:—Domestic Troubles and Domestic Grief; Intemperance; Epilepsy; Affections of Head and Spine; Uterine Disorders; Religious Anxiety and Excitement; Disappointed Affections; Sexual Vice; Fever and Febrile Diseases; Fear and Fright; Intense Study; Political and other Excitement; Wounded Feelings.

Of these, the main exciting causes of Insanity, we must speak more in detail. With regard to *Intemperance*, Lord Shaftesbury, in his evidence before the Select Committee on Lunatics, in 1859, expresses his opinion that 50 per cent. of the cases admitted into English asylums are due to drink, and cites Esquirol in support of this statement. It is more than doubtful, however, whether Esquirol possessed any statistics which would have borne him out in this assertion; for although intemperance stands first in the above list, we do not find that, when calculated upon the admissions, it exceeds, in most asylums, 12 per cent. Calculated upon the cases in which the cause was ascertained, the per-

centage is, of course, higher. Thus, from the Report of the Commissioners in Lunacy in 1844, it appears that of 9867 cases in which the cause was ascertained, 1792, or upwards of 18 per cent., were due to this cause. It will readily be admitted, however, that these figures fall far short of presenting a true picture of the complex influence of intemperance in inducing insanity, directly *or indirectly*. Those superintendents of asylums who, like Dr. Poole, estimate intemperance at 25 per cent. or higher, no doubt include those cases in which drink has not only been the proximate, but also the remote cause of the disorder. This estimate is greatly increased when we take into account the large number of cases in which the intemperance of parents causes the Insanity or Idiocy of their offspring. Again, calculated on males only, the proportion of admissions from drink would be much higher.

At the York Lunatic Asylum, Dr. Needham's statistics show a proportion of 16 per cent. for both sexes on the total number admitted (1029), and for men 22 per cent. Dr. Clouston gives for the cases admitted from Cumberland and Westmoreland, 16·15 for both sexes, 22·50 for men.

Dr. Kirkbride, in his Report for 1871, says that, of 3599 patients admitted into the establishment in 31 years, about whom he was able to obtain information, 13·42 per cent. (22·52 males, 2·39 females) had become insane through drink. Lee (1868) states that of 14,941 patients treated in 16 American asylums, 11·97 per cent. were due to this cause. Earle's statistics for the Northampton Asylum show a proportion of 11 per cent. on the total number admitted of both sexes, and for men 20 per cent.

General Paralysis is very frequently caused by intemperate habits. Guislain attributes it mainly to the combined action of drink and study, or drink and trouble. Tobacco and opium must be added to alcohol as causing Insanity, though to a much less extent; also lead. See case in 'Journal of Mental Science,' July, 1872. Insanity is not very unfrequently referred, in our Asylum Reports, to the use of mercury.

We may refer a little more in detail to the effects of different kinds of intoxicating liquors.

It is well known that *absinthe* and the substitution of strong for light wines have been most injurious in France. M. Morel assured the writer, a few years ago, that in those districts where the ordinary wine of the country was the only form of intoxicating drink in

use, few persons became insane from intemperance, but that directly you came to the towns, you witnessed the large amount of Insanity caused by spirits, and in Paris, Rouen, &c., by absinthe. Further, in many country districts strong liquors are being increasingly consumed, and with a proportionate amount of Alcoholic Insanity. Dr. Decaisne has written an article in the 'Gazette des Hôpiteaux' (1869) on the effects of absinthe upon the nervous system, in which he repeats what he had fifteen years before maintained, that absinthe in the same dose and strength as alcohol, or eau de vie, has the most disastrous influence on the economy, and produces intoxication much more rapidly. Dr. Magnan has also written a memoir on the 'Experimental and Clinical Investigation of Alcoholism,' of which an abstract will be found in the 'Journal of Mental Science,' July, 1872, in which he enters in detail upon the peculiar influence of absinthe.

The question of the influence of various forms of intoxicating drinks has been most carefully investigated by M. Lunier, and the results of his enquiries are published in the 'Annales Médico-psychologiques' for 1872. His main conclusions may be thus stated :

1. Spirituous liquors, and especially those manufactured with spirit derived from beetroot and grain, tend in all parts of France to take the place of the natural drinks, wine and cider.

2. While the consumption of alcohol has nearly doubled between 1849 and 1869, the cases of Insanity from intemperance have risen 59 per cent. with men, and 52 per cent. with women.

The progressive increase in the consumption per head of alcohol (strength 90° to 92°) was as follows :

1831	1·09 lit.	1861	2·23 lit.
1841	1·49 „	1866	2·53 „
1851	1·74 „	1869	2·54 „

The proportion of cases of Insanity caused by drink, rose in like manner :

	Men.		Women.		Both sexes.
1838	...	.....	...	.....	7·64
1841	...	.....	...	.....	7·83
1856–8.....	14·30	.....	3·09	.....	8·89
1864	14·78	.....	3·37	.....	10·22
1867–9.....	22·82	.....	4·71	.....	14·78

3. In those departments which do not cultivate either wine or cider but produce alcohol, and where the annual consumption has

increased, in twenty years, from 3·46 lit.* to 5·88 lit. per head, Insanity from this cause has risen from 9·72 to 22·31 per cent. with men, and from 2·77 to 4·14 with women.

4. In those which produce neither wine nor alcohol but cultivate cider, and where the consumption of alcohol, which was only 2·43 lit. in 1847, is now 4·08 lit., the proportion of cases of Alcoholic Insanity attains 28·53 per cent. for men, and 9·18 for women.

M. Lunier says that the alcohol from cider is more pernicious than that from beetroot or grain, and that in the Department of Calvados, where the largest proportion of cases of Alcoholic Insanity exists (56 per cent. men, 10 per cent. women), a great deal of alcohol from cider is produced and consumed. The relative frequency of Alcoholic Insanity among women, who previously were almost exempt from it, has increased fearfully. In Brittany and Normandy, he says, excess in drinking alcohol has become nearly as common with women as men.

5. In the departments which cultivate neither wine nor cider nor alcohol, and where the consumption has increased from 1·49 lit. to 2·69 lit., Insanity from alcohol has risen from 7·37 to 10·25 per cent.

6. In those departments which both cultivate wine and manufacture spirits of wine, but where the consumption, which was 0·53 lit. in 1849 and is now only 1 lit. per head, Alcoholic Insanity has only increased from 7·63 to 11·40, and is comparatively rare among women.

In the Somme, where but little alcohol is drunk, and scarcely so much in 1869 as in 1849, the number of cases of Insanity from drink has remained almost stationary among the men and quite so among the women.

7. In some departments, where the people drink relatively much *white* wine very slightly alcoholised and little spirit, as in the Vendée, Loire-Inférieure, Côte d'Or, Alcoholic Insanity appears to be as common as in those in which they mainly consume alcohol; but in the former, contrary to what happens in the others, the cases of Insanity from drink are relatively very rare among females.

M. Lunier attributes the fact that these white wines are almost as pernicious as spirit manufactured from beetroot or grain, to

* A litre equals 34¼ fluid ounces (Eng.).

their containing but little tannin. He says that everything induces him to conclude that other natural wines, particularly the red wines which have not been *suralcoolisés,* rarely determine chronic alcoholism.

8. The increase in the number of suicides has everywhere in France followed the increased consumption of alcohol.

9. As regards the relative effects of *beer* and alcohol, it is noteworthy that in the north, where the consumption per head of alcohol has nearly doubled in twenty years (1849 to 1869), the cases of Insanity from alcohol have quadrupled among the men, while among the women, who drink a great deal of beer and little alcohol, the cases of Insanity from drink remain the same.

It appears from the foregoing that the pernicious influence of intoxicating drinks as regards Insanity is in the following order: —alcohol from cider, alcohol from beetroot and grain, cider, wine, beer, the white wines referred to being much more injurious than red.

We have already spoken of the influence exerted by drunken parents upon their offspring. M. Lunier estimates at 50 per cent. at least, in the great cities, the idiots and imbeciles whose parents were notoriously drunkards. In the majority of cases "children born of parents when drunk or who were constitutionally drunkards" are, he considers, weak in some way or other.

Of the remarkable influence of alcohol in Paris in inducing Insanity during the late war, M. Lunier gives abundant proof in the article referred to. During May, 1871, 55 per cent. of the admissions were due to this cause.

We calculate that *Epilepsy* is the cause* in about 6 per cent. of the patients admitted into asylums. It is scarcely necessary to observe that it must never be regarded as a cause of Insanity, except when it manifestly precedes the mental affection. When treating of Moral Insanity, we shall refer to the great importance of convulsions during infancy, notwithstanding their frequency and often brief duration. In the York Asylum tables, of 1029 admis-

* It must be understood that we speak in this section of causes in accordance with the usual custom of regarding epilepsy, &c., merely as such, and not as parts of the disease or disorder of the nervous system, of which insane manifestations are additional symptoms in the progress of the malady. We shall regard them in the latter light when we approach the forms of mental disorder from this, the somato-ætiological point of view. The two are, however, so closely connected, that this section should be read in connection with the subsequent chapter referred to.

sions (causes ascertained in 864 cases) 23 were referred to epilepsy. In the Northampton (U. S.) tables, of 1074 admissions (causes ascertained in 687 cases) 62 were ascribed to this cause.

Affections of the Head and Spine include their injury from external causes, apoplexy and paralysis, sunstroke and disease of the brain. In any large asylum the number admitted in the course of a single year, in consequence of apoplectic and paralytic attacks, is considerable. Thus in 1852, of 1353 admissions into the Bicêtre and Salpêtrière we observe that 27 were attributed to apoplexy and 31 to paralysis, being a proportion for both together of about 4 per cent. In the same year 11 were admitted insane from external injuries, such as blows on the head, &c. Our total calculations under "Affections of the Head and Spine" give a proportion of 6 per cent. Earle's recent tables show that of 1074 admissions at the Northamption Lunatic Hospital, 10 were due to injury to the head, 4 to sunstroke and 14 to apoplexy and paralysis. In the York Asylum tables, of 1029 admissions (causes ascertained in 864 cases) 7 are referred to "head-stroke," 25 to "injury to head."

The relation of *Uterine Disorder* to Insanity is frequently very difficult to determine. Although, however, often only an early symptom of the disease when set down as a cause, there remains a large number of cases in which suppressed or irregular menstruation is the true cause of the attack. The effect of the natural cessation of the catamenia at the critical age, proves the great importance of the suspension of the menstrual discharge, as a cause, as well as a symptom of Insanity. Pregnancy, childbearing, and lactation, in their relation to attacks of mental disorder, will be considered in a future chapter. The proportion of admissions from uterine disorders appears to be about 5, or taking female admissions only, 10 per cent. In a recent French Lunacy Report it is estimated at 23 per cent. for France. Among asylums for the opulent classes exclusively, the ascertained proportion would be higher; the real proportion higher still, among both poor and rich.

To estimate with anything like accuracy the relation which *Sexual Vice* bears to Insanity, requires the greatest discrimination. The writer is satisfied that no sufficient data at present exist to determine this question with precision, and that, therefore, the statements on this subject so often made, constantly confound either cause and effect, or vice and associated but distinct causes. Five per cent. of the female admissions into the Salpêtrière were attributed

by Esquirol to prostitution. How many of these cases were due to intemperance, remorse, unkindness, &c.? In Dr. Earle's recent tables of the Northamption State Lunatic Hospital it appears that out of the male admissions (572) 19 were attributed to masturbation. In those of the York Asylum prepared by Dr. Needham, out of 603 male admissions this cause is set down at 15. Reliable facts are of course most difficult to obtain, and such figures reveal little of the real truth.

In regard to other diseases than those already mentioned, one of the most important is *Fever*, which appears to cause 2 or 3 per cent. of admissions. We believe it would be found, that Insanity more frequently follows continued fever, accompanied by the mulberry- than the rose-coloured rash; and also that it is less curable when it succeeds the former—the "typhus" of Dr. Jenner. In children it is not uncommon to witness illusions and extreme nervousness last for some time after the attack of fever, but they commonly pass away when the system is recruited. Sydenham observed Mania of a peculiar form "occasionally follow long agues, especially if they be quartan. From the exhibition of strong evacuants, it degenerates into fatuity." ('Works,' vol. i, p. 93.)

Although of secondary importance to fever, there are various diseases which in this place deserve enumeration. Such are cutaneous affections, including erysipelas, when repelled, otitis, intestinal worms, gout, rheumatism, disease of the heart, asthma, syphilis. "Ill health" is a general term frequently assigned as the cause of Insanity in statistical tables, but is so vague as to be worthless, and cannot be distinguished from the signs of the oncoming mental affection itself.

Of moral causes, *Domestic Troubles and Grief* are unquestionably the most important. Drunkenness, either of the patient or of some member of the family, is, in a large number of instances, the real cause of domestic trouble, and therefore remotely of the attack of Insanity. *Domestic Troubles* are of various kinds—ill-treatment and desertion, also reverses of fortune and poverty. *Domestic Grief* implies that arising from illness or death of a relative. Of the former, the admissions average 9 per cent., 3 of which appear to be more especially connected with pecuniary difficulties; about 5 per cent. are assigned to domestic grief—making their combined influence rank at 14 per cent. Among

women only, the rate is much higher. At the York Asylum, out of 1029 admissions, 24 were due to business anxiety, 103 to domestic affliction, 104 to pecuniary reverses.

Religious Anxiety and Excitement.—In the analysis of our collected cases, we find it assigned in 3 per cent. of the total admissions. Doubtless, in many instances it was in reality the initial *symptom* of the disorder. Still we cannot for a moment doubt that the form in which religion is but too frequently presented is a serious cause of Insanity.

At an early period of his observation—before the spread of infidel principles in France—Pinel calculated that about one fourth of the cases of Insanity with the causes of which he was acquainted, were due to excessive religious enthusiasm; while at a later period, Esquirol found that in upwards of 600 lunatics in the Salpêtrière, this was the cause in only 8 cases, and in 337 admitted into his private asylum, this was supposed to be the cause in only one instance. In the place of religious, political excitement was a considerable cause of Insanity. Dr. Earle gives 17 cases out of the total numbers already mentioned, as due to "religious excitement," and 6 to "Spiritualism;" Dr. Needham, 26 out of 1029 admissions, as due to the former.

Disappointed Affections were the assigned cause in about the above proportion, being nearly 3 per cent. In some asylums, the tables of causes exhibit "disappointed affections" much higher in the scale than religious excitement.

Of the effects of *Fear and Fright,* several striking examples will be given in the description of the various forms of mental disorder. Of admissions, 2 to 3 per cent. are referred to this cause. At the York Asylum "sudden fright" is enumerated in 13 cases out of 1029 admissions.

The influence of *Intense Study* is with difficulty separated from the habits or the feelings with which it is often associated. In asylums for the higher classes, the number of male admissions from this cause is by no means inconsiderable. In some of the American asylums it figures high. On this subject, see an important pamphlet by Dr. Jarvis entitled 'Relation of Education to Insanity,' Washington, 1872. Out of 1741 cases the causes of which are given, admitted into sixteen American asylums, 205 were attributed to excess of study. As an indirect agent he considers it very potent.

Political Excitement and War might be expected to exert a great influence on the admission of the insane into asylums. M. Belhomme received into his private asylum ten patients labouring under Mania in consequence of the Revolution of February, 1848.* M. Legrand du Saulle admits the influence of the Revolution, but says any other cause acting on the predisposed would have produced the same result. That political commotions mainly affect those who are predisposed to Insanity is true, but this would apply to many other exciting causes, the importance of which we do not, on that account, ignore. In ordinary times, in England at least, the number of cases admitted from political excitement constitutes a mere trifle.

An opportunity for testing this influence occurred during the Franco-Prussian war. M. Morel insists on the great frequency of Panophobia from the fear of the Prussian invasion and the agonies of the war. M. Bourdin considers he has failed to prove it. Would the children yet unborn suffer? Both these physicians conclude with Pinel that under such circumstances they certainly do—that they are more irritable, more disposed to become melancholy, imbecile or epileptic. This remark of course applies as well to civil war. The large number of suicides which occurred during the reign of the Commune seems easily accounted for, without the increased intemperance to which Morel attributes it. M. Baillarger thinks that probably more will suffer after than during the war, in accordance with Esquirol's experience as regards the Reign of Terror. M. Legrand du Saulle states that after the horrible events which recently occurred in Paris, he does not know that there has been a serious number of cases of Acute Insanity certainly referable to them. Morel relates the following:—Two brothers, one of whom witnessed the burning of his shop, fell suddenly into a state of stupor, to which a violent maniacal attack succeeded. The other was witness in a trial during which the people madly invaded the sanctuary of justice, and was struck in his turn with such alarm that the melancholy oppression which seized him finally terminated in the most deplorable manner.

* Taking four years, 1847, 1848, 1849, 1850, there were the fewest admissions into the French asylums in 1848; but as explained by the experience of the Franco-Prussian war, it does not follow that there were fewer occurring cases of Insanity, still less that political events did not cause Insanity, although in some instances they might avert it.

An artillery man, exposed during the days of June to the most terrible fire, and remaining alone on the spot which he guarded, fell immediately into a profound stupor and was long confined in an asylum in consequence of furious mania which succeeded. Morel also mentions that the burning of villages caused, in many instances, "crises of Despair to which succeeded a state of Melancholia with tendency to Suicide."

Now what appears at first sight a remarkable thing is this:—That during the summer of 1871, the total number of insane in Paris was considerably less than usual. Allowing for the great mortality arising out of the cold winter and the war as well as the executions, M. Legrand du Saulle arrives at the conclusion in an article in the 'Annales Médico-psychologiques,' "De l'état mental des habitants de Paris pendant les événements de 1870-71," that the late war is another proof that "the gravest political events, although they may give, at the moment, a colour to the particular form of Insanity, do not produce, as is commonly supposed, an increase in the number of lunatics." It was observed that the excitement of the war, the rousing influence it exerted on many minds, was to some extent a set-off against its baneful effects on the mind. Lunier noticed that many neuropaths forgot their sufferings in the fearful suspense of the siege, and patients under treatment, the subjects of delusions and hallucinations, got rid of them, for a time at least. In his own experience, those who became mad were not, as Baillarger holds, the subjects of hereditary taint; on the contrary, with such, he thinks the war acted as a powerful diversion to avert the outbreaks of Insanity. As a fact fewer insane persons were admitted into the French asylums during the war. The number of admissions, which from July 1st, 1869, to July 1st, 1870, was 11,655, was in the succeeding year (*i. e.* during the war of the Commune) only 10,243, a falling off of 1412. It is, however, no less true that, during the same year, between fourteen and fifteen hundred persons became insane from the war. Statistics were obtained from various departments divided according to the occupation of the country by the enemy, and it was found that in the district only occupied for a very short time and where the struggle had been the most intense, the events of the war proved most disastrous.

In Paris, the number ascertained to have become insane during

the siege and the Commune in the year 1870-71, exclusive of those not sent to asylums, amounted to 290 men and 121 women.

In almost all cases, the form of Insanity assumed an acute type, and in the great majority of cases termined rapidly, either in death or much more frequently in recovery. Hence on January 1st, 1872, there remained comparatively few in the asylums, whose Insanity had been caused by the war.

Among the causes of apparent diminution of attacks of Insanity, as shown by the admissions, it may be stated that many went to hospitals instead of asylums, and many remained with their friends; and of course a large number of persons were killed who would in the ordinary course of events have become insane. Observations were made by Dr. Nasse on the influence of the war between Austria and Germany in 1866, and he concluded that no injurious results occurred as regards Insanity. He agrees with Jarvis as opposed to M. Brierre de Boismont, that "neither war nor political commotion sensibly augments the cases of Insanity." ('Zeitschrift für Psychiatrie,' 1870, and 'Annales,' 1870.)

Excitement from various other causes acts prejudicially upon the mind. Out of the 1741 cases referred to at p. 106, 61 are attributed to excitement. Sudden joy, contrary to an opinion sometimes expressed, does not produce nearly so much Insanity as grief; its influence, however, in deranging the mental powers is occasionally observed, and was illustrated by Gregory, in his lectures, by the history of a family, three members of which became insane in consequence of an unexpected accession of fortune. We believe these cases have been published, but for the following particulars the writer is indebted to the notes of a gentleman who was present at the Professor's lecture. An elderly woman and two daughters lived together as companions in poverty for several years. The mother was rigidly penurious; the eldest daughter was of a gay disposition, and thwarted her mother's wishes by spending money whenever she could obtain it; her sister, on the contrary, was grave, and had good abilities. A distant relative died, and they became rich beyond their utmost desire. On being informed, the mother became deranged, as also the eldest daughter. The younger daughter wrote to Dr. Gregory describing their condition, but in a short time she also became insane, probably from grief no less than from joy. In a few days the mother and the youngest daughter died. The eldest, upon whom the whole of the

property now devolved, continued insane for some time, then recovered, and subsequently married. Her husband lost all her money, and left her reduced as low as, if not lower than, she was before the accession of riches which caused the overthrow of her reason. Might not a recurrence of the attack have been expected? On the contrary, however, she bore her losses patiently, and she remained quite healthy in mind. An interesting example of the effect of excitement in causing Insanity is given by Dr. Walker, in his 'Report of the Boston Asylum (U. S.)' for 1851:—An Irish boy, thirteen years of age, after arriving at that city in an emigrant vessel, became raving mad in two days, apparently from no other cause than the strangeness and novelty of what he saw. Delasiauve mentions the case of a lady who was very actively engaged in obtaining judicial separation from her husband and manifested no signs of Insanity, but directly she gained her cause she became deranged. At the York asylum, out of 1029 admissions, while 24 were ascribed to "business anxiety," *only one* was referred to "business success."

Wounded Feelings is a term comprising "wounded self-love or respect," "being reproved," "injured reputation," and similar circumstances mentioned in Asylum Reports as inducing the attack for which the patient was admitted. On the Continent, the returns under this head are much more frequent than in England, where they appear to cause but a fraction per cent. of the admissions.

The various proportions of the *exciting* causes which we have now passed in review, account for about 60 per cent. of cases of Insanity. No cause was ascertained in about 20 per cent. Probably we shall not be far wrong in dividing these among intemperance, dissolute habits, and anxiety, chiefly connected with pecuniary difficulties. There remain 20 per cent. of cases in which *predisposing* causes *alone* could be referred to as causing the condition of mind the patient laboured under when admitted. Of these, hereditary predisposition would be the only cause in some instances; congenital malformation in a considerable number; and lastly, "old age," which, in some tables is placed, not without reason, among the exciting causes, and which precedes about 5 per cent. of the admissions into our asylums.

Relative influence of moral and physical causes.—Pinel and Esquirol arrived at the conclusion that moral causes are much

more productive of Insanity than are physical. M. Brierre de Boismont is a warm supporter of the same view, and advocates it with his usual ability. Marcé holds the same opinion. Guislain estimates, that of 100 admissions, 66 arise from the former, approaching very nearly the result arrived at by Dr. Parchappe, viz. 67·1 per cent., and that of Hare, to whom Guislain refers, viz. 66 per cent. Dr. Hood, in his 'Statistics of Bethlem Hospital,' states that the moral causes of the attacks of those admitted, greatly exceed those of a physical nature.

At the Retreat, the proportions have been reversed, the physical being in excess of the moral by 25 per cent. of the whole, when the predisposing and exciting causes, exclusive of hereditary predisposition, are added together; or stated differently, for 100 moral there were 165 physical causes. As the predisposing causes of Insanity are physical, the results we arrive at, as to the relative influence of moral and physical causes, will obviously be affected by their addition, or otherwise, to our figures. Taking our own collected cases, we find that, having regard exclusively to the exciting causes, arranged in accordance with the distinction already adopted, of 30,087 cases in which the exciting cause was ascertained, 16,986 were due to physical and 13,101 to moral causes, being at the rate of 129 physical for 100 moral causes. Dr. Earle sums up his ætiological statistics thus:—"Thus it appears that of 1074 persons, there were 687 for whose mental disorder causes were assigned. Of these, 539 are agents whose action is primarily upon the body, and 148 are such as first act upon the mind. The number of physical causes, therefore, is about three and a half times as large as that of the mental or moral causes." (He includes in physical causes, heredity, epilepsy, paralysis, &c., old age; and congenital states). The statistics of the York Asylum teach, says Dr. Needham, "that in the causation of the mental disease, moral influences had operated in one third, and physical causes in two thirds of the cases admitted" (includes in physical causes, the same as Dr. Earle). How are we to account for results so different from those arrived at by Pinel, Esquirol, and others? The circumstance arises in part from the inherent difficulty of this subject, and partly—as in everything else about which men differ—from the different definition of the terms adopted. In illustration of the former, it is only necessary to mention the extremely doubtful nature of vicious indulgence in

this point of view. It is of mixed character in most instances, and yet we generally refer it solely to the division of physical causes. In a less degree, a patient who has become insane after leading an intemperate life, may have became so partly in consequence of domestic troubles. Dr. Parchappe might enter the case under the latter head, by which it would increase his division of moral causes; another might enter it under "intemperance," and so add to the list of physical causes. It is, we suspect, mainly in this way, that although we have arranged Dr. Parchappe's table in accordance with our own classification of exciting causes, the moral preponderate over the physical causes. It is quite possible (although, without knowing each case, impossible to decide) that his mode of tracing and appropriating the cause has been the correct one. It is impossible to avoid altogether this element of uncertainty. We also believe that among our lively French neighbours, moral agents do exert a greater influence than with either the English or Americans. "Amour-propre blessé," and other items under "Wounded Feelings," figure to a much greater extent in their reports of causes than in ours.

As an example of the second source of discrepancy, we may refer to the different ways in which epilepsy is regarded. Some, like Earle, add it, as in our list, to the column of physical causes; others omit it altogether, in consequence of regarding it as simply one stage of the disease. If we deduct from our own cases those in which epilepsy was the alleged cause, the physical causes would be materially reduced, and still further by the exclusion of apoplexy and paralysis, all of which are omitted by Dr. Parchappe. Again, it is certain that one explanation of the apparent discrepancy between statistical writers on Insanity, is to be found in some adding constitutional feebleness of mind to the list of (predisposing) *causes;* while others, regarding it as a part of the disease, take no account of it. This will partly explain the different balance of figures given by Dr. Parchappe and Dr. Thurnam. When in regard to the Retreat we only take the *exciting* causes (in which this element of discrepancy does not appear), we find the moral exceeding the physical causes, although not to the same extent as with the former writer.

On the whole then, while the statistics we have collected together, indicate a preponderance of physical over moral causes,

we are not prepared to say that they are sufficient, without further evidence, to negative the conclusion to which we think *à priori* considerations would conduct us, namely, the superior force, in civilised countries, of moral agencies in the generation of mental disease. A larger number of cases, and especially the means of tracing each to its real cause, would probably materially modify these figures. We now refer solely to the *exciting* causes of Insanity, for we can have little doubt that if hereditary predisposition (when the only cause), congenital feebleness of mind, old age, and some other predisposing circumstances, are added, the catalogue of physical agents will actually as well as apparently exceed those of a moral character.

In concluding the observations on the exciting causes of Insanity we may state that under this head the International Congress of 1867 include—

I. Physical causes.—Artificial deformities of cranium; convulsions of infancy and dentition; cerebral congestion (primary, not that which arises in the course of certain forms of Insanity); organic affections of the brain; senility; pellagra; anæmia; constitutional syphilis; intermittent fever; typhoid fever; eruptive fevers; acute rheumatism; gout and chronic rheumatism; organic affections of the heart; pulmonary phthisis; intestinal worms; other acute diseases; other chronic diseases; suppression of hæmorrhoidal flux; menstrual disorders; metastasis; alcoholic drinks; abuse of tobacco; other vegetable poisons; mineral poisons (lead, mercury, copper, &c.); insolation; intense heat; intense cold; blows and falls upon the head; other traumatic causes.

II. Moral causes.—Appertain to religion; education; love (love thwarted, jealousy); family affections; fluctuations of fortune; domestic troubles; pride; disappointed ambition; fright; irritation; anger; wounded modesty; political events; nostalgia; ennui; misanthropy; sudden joy; simple imprisonment; solitary confinement.

The Congress only attached a secondary importance to the distinction between predisposing and exciting; but thought some division, however imperfect, is better than none at all. (See 'Journal of Mental Science,' Jan., 1870, p. 638.)

III. Mixed causes.—Excess of intellectual work; prolonged vigils; evil habits of libertinism; onanism (sometimes simply predisposing); disorders of the reproductive system; destitution and want;

bad treatment; sudden change from a life of activity to idleness, and *vice versâ*; loss of one or more of the senses.

SECTION IV.—Statistics.

Under the head of Statistics we include the Proportion of the Insane to the Population; the relative Frequency of the various Forms of Mental Disorder; the Proportion of Recoveries and Relapses; the Mortality of the Insane; and Prognosis.

I. Proportion of the Insane to the Population.—On no subject has there been more absurd and illogical reasoning, or more hasty generalization, than on the proportion of the insane to the population, whether in regard to various countries or in regard to the same country at different periods of its history. The most obvious essentials for making correct comparisons are constantly disregarded, notwithstanding which, highly important inferences are drawn with the utmost complacency, and apparently in entire ignorance of the fallacy which underlies such loose and worthless calculations. Even up to the present time, when the subject is discussed, we are often presented with merely a list of the numbers of lunatics in various countries, the conclusion being drawn that such numbers represent correctly the liability to Insanity in these countries,—the difference sometimes ranging between one in a thousand and one in 30,000! Generally, the only basis for such calculations is the number of patients in lunatic asylums; yet it must be obvious that, in consequence of the very different provision made for the insane in different countries, such a basis as this is utterly fallacious. But there are other circumstances which vary most materially among different peoples, and which must be taken into account before we can arrive at anything like a satisfactory result; yet these have again and again been entirely overlooked. For example—the mortality of lunatics varies in the same country at different periods, and is greater in some countries than in others. Now, let the reader suppose that there were a law in Scotland that every lunatic should be put to death when all means of cure had been resorted to for the space of five years, and suppose that no such law existed in England; it must be evident that a return of the number of lunatics in the two countries would exhibit a far larger proportion in England than in

Scotland; while, at the same time, it is not less evident that precisely the same, or even a greater number, might become insane in the latter country than in the former. Although an extreme case by way of illustration is here supposed, the same error is in degree committed whenever the relative liability to Insanity of two nations is endeavoured to be ascertained, without an attempt being also made to ascertain the relative mortality of their lunatics. In other words, unless we can ensure an entire similarity in the various circumstances of two nations, or of the same nation at two different periods, we must obtain statistical returns—not of the number of lunatics existing at any given period, but—of the number of cases occurring in a nation, as compared with the population. "The tendency to Insanity in a class is expressed (as Dr. Farr observes) by the proportion that *become* insane."*

In our own country there are two reasons why the proportion of the insane to the population appears to be greater than was formerly the case. The first is, that the disease is recognised as such to a far greater extent than formerly; and the second is, that we know, to a much greater extent than heretofore, the number of the insane throughout the country. In the short period of nineteen years, the estimated proportion of the insane in England rose from 1 in 7300 to 1 in 769; a difference which led to the belief in a frightful increase of Insanity, but which by no means warranted such a conclusion. The knowledge of an evil, and the existence of that evil, are two widely different things. Insanity may or may not have increased; but our increased knowledge of its extent is no proof that it has. Again, it is obvious that, should there be a larger number relieved by

* See also some excellent observations by Dr. Thurnam on this subject, 'Statistics of Insanity,' p. 171. He suggests that ultimately we may be able to employ a still more stringent test of the liability to Insanity in any community—viz., the proportion out of equal numbers living, of the same sex, and at each period of life, who become for the first time insane.

Dr. Harrington Tuke has recently pointed out that the greater relative increase in the population at those periods of life most susceptible to Insanity (as actually occurs on comparing the census of 1861 with that of 1851) should be taken into account. Hence, while the proportion of the insane to the total population might be greater at one period than another, it might, if this were allowed for, be really less. (See 'Journal of Mental Science,' January, 1872.)

treatment and discharged from asylums for the insane, there will be a larger number of recurring cases.

It follows, therefore, that if in the estimate of those who become insane, these recurring cases are included, the simple circumstance of curing a greater number of patients will be the very means of making it appear that a greater number of persons are attacked by Insanity,—a greater number than would appear to be the case under more unfavorable circumstances.

When the first edition of this work was published, the number of insane and idiotic in England and Wales was stated to be 33,641 (January 1st, 1857) or 1 in 577, (males 1 in 616, females 1 in 543).

The total number registered, according to the last Report of the Commissioners in Lunacy, on the 1st of January, 1872, amounted to 58,810, or 1 in 388 (males 1 in 412, females 1 in 364), being an increase of 25,169. In these figures, however, it must be remembered that no account whatever is taken of the number of insane persons not officially reported to the Lunacy Commissioners. This number cannot, of course, easily be guessed at. In former editions we said that, were it fully known, it would, when added to the number already ascertained, exhibit a proportion of at least one insane or idiotic person to every 300 of the population. Subsequent statistics, without including this unknown element, having raised the ascertained proportion from 1 in 577 to 1 in 388, we are confirmed in the opinion then expressed.

They were distributed as follows:

TABLE *showing the total number of Insane and Idiotic Persons in England and Wales registered on January* 1, 1872.

DISTRIBUTION.	PRIVATE.			PAUPER.			TOTAL.		
	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.
In County and Borough Asylums	138	167	305	13,495	15,841	29,336	13,633	16,008	29,641
In Registered Hospitals	1,104	998	2,102	197	17	376	1,301	1,177	2,478
In Licensed Houses	1,602	1,477	3,079	379	715	1,094	1,981	2,192	4,173
In Naval and Military Hospitals and Royal India Asylum	380	15	395	...	...	...	380	15	395
In State Criminal Asylums	290	51	341	116	32	148	406	83	489
Private Single Patients	168	252	420	...	...	...	168	252	420
In Workhouses	...	...	...	5,878	7,730	13,608	5,878	7,730	13,608
Out-door Paupers	...	...	...	3,071	4,365	7,436	3,071	4,365	7,436
				23,136	28,862	51,998	26,818	31,822	58,640
Found Lunatic by Inquisition and residing in charge of their Committees elsewhere than in Asylums, Hospitals, and Licensed Houses	...	...	170	...	...	...	...	...	170
Total	3,682	2,960	6,812	23,136	28,862	51,998	26,818	31,822	58,810

The increase in the population since Jan., 1857, being 3,666,136, there should now be 40,000 lunatics in England and Wales, had the proportion of Lunacy and Idiocy to the population remained stationary, but instead of this being the case, we find an excess of 18,810. The question is, Is this apparent or real? Is there more occurring as well as existing Lunacy than there was some years ago, before so much attention was paid to the subject? That a part of this increase is readily accounted for by the annually increasing facility of obtaining really accurate returns and by the decreased mortality consequent on the care taken of the insane in our asylums, is, no doubt, true. Can it be shown that the whole is due to these or any causes other than the actual extension of the disease? We are not prepared to reply in the affirmative, and yet a careful examination of the subject shows how much that seems real is only apparent; due, in short, to mere accumulation (p. 123).

We cannot solve this problem satisfactorily to ourselves because, notwithstanding the published statistics, the difficulty of asertaining correctly the *occurring* cases of Insanity at once meets us. In the Annual Report of the Commissioners, the number of admissions into asylums is given, but no account is taken of the number sent to workhouses, or of those among the poor who become insane and are lodged out as single pauper patients. Again, as idiots and imbeciles are not distinguished from the insane, or when they are so, are constantly confounded with cases of Dementia, we are unable to arrive at any just conclusion as to the number who become insane in a given year. We subjoin, however, such a statement of the admissions as is given in the Lunacy Report (1872) for fourteen years. It must also be remembered that, as a certain amount of lunacy has for long existed, for which proper accommodation has not been made, the moment a new asylum is completed, the "Admissions" in that year's report are augmented without there being more occurring lunacy. The limit of accommodation must obviously determine the number admitted, and hence vitiate these returns as tests of the increase or otherwise of Insanity. Lastly, we have no means of complying with the conditions required by such an inquiry as stated in the footnote at p. 115.

TABLE.—*Showing the ratio (per* 1000) *of the total number of Lunatics and Idiots to the population in each year from* 1859 *to* 1872, *and the ratio per* 10,000 *of the admissions into asylums during the same year. (England and Wales).*

Year.	Population.	Total number of Lunatics and Idiots Jan. 1.	Ratio to the population (1000).	Number of admissions into asylums.*	Ratio to the population (10,000).
1859 ...	19,686,701	36,762	1·86	9,310	4·73
1860 ...	19,902,713	38,058	1·91	9,512	4·79
1861 ...	20,119,314	39,647	1·97	9,329	4·14
1862 ...	20,336,467	41,129	2·02	9,078	4·46
1863 ...	20,554,137	43,118	2·09	8,914	4·40
1864 ...	20,772,308	44,795	2·15	9,473	4·08
1865 ...	20,990,946	45,950	2·18	10,424	4·97
1866 ...	21,210,020	47,648	2·24	10,051	4·74
1867 ...	21,429,508	49,086	2·29	10,631	4·96
1868 ...	21,649,377	51,000	2·35	11,213	5·18
1869 ...	21,869,607	53,177	2·43	11,194	5·12
1870 ...	22,090,163	54,713	2·47	11,620	5·21
1871 ...	22,704,108	56,755	2·49	12,573	5·55
1872 ...	22,074,600	58,640	2·54	...	...

As regards Ireland, it appears that there were 18,327 insane and idiotic registered on January 1st, 1872, the proportion being 1 to 300 of the population.

Dr. MacCabe, Medical Superintendent of the Waterford Asylum, in an article in the October number of the 'Journal of Mental Science,' 1869, says, "I conclude that in the District I have selected for observation [the County and City of Waterford] Insanity has largely increased from 1851 to 1861. I am of opinion that the alleged increase of lunacy is a well-established fact so far as regards Ireland from 1851 to 1861. I have taken one county of Ireland with which I am specially well acquainted, and if the reader will compare my results with the figures furnished by the general Census of Ireland for 1851 and 1861, he will perceive that the same conclusions may be arrived at for the whole kingdom as I have reached by a more minute inquiry into the returns of one of its constituent parts" (p. 366). He does not, however, furnish the statistics required to estimate the number of admissions in successive years.

The Report of the Scotch Lunacy Commissioners of 1872

* Includes patients in county and borough asylums, hospitals, licensed houses, and single private patients.

enables us to form some (though doubtless an imperfect) idea of the proportion of insane in Scotland. The number of ascertained lunatics on January 1st, 1871, was 7729, the proportion to the population being 1 to 435. The Commissioners consider that 2000 might fairly be added to the above returns of lunatics in Scotland. In ten years the proportion of pauper lunatics in the general population has increased from 180 to 187 in every 100,000; and the proportion of pauper lunatics to paupers from 66·57 to 79·28 per 1000. Taking the United Kingdom, it appears that there are about 85,000 persons ascertained to be under care as either Insane or Idiotic.

In regard to France, where there has occurred the same apparent increase of Insanity as in England, and where the proportion of insane or idiotic to the population has been estimated at 1 to (about) 400, M. Lunier, Inspector-General of the "Service des Aliénés," presented a memoir to the Imperial Academy of Medicine in 1869, which appeared in the 'Annales Médico-psychologiques,' January, 1870, in which he concludes — 1. The number of the insane in French asylums has increased since 1835 from 10,539 to 38,545 (nearly quadrupled). 2. The relative number, or the proportion of insane in asylums to the population, has risen from 316 to 1003 in the 10,000 (tripled). 3. There is a continued yearly increase in the asylum population. This has gradually risen from the rate of 400 a year, which it was previous to the law of 1838, to a yearly increase of 600 and 1300, but since 1862 there has been a manifest yearly decrease, and the yearly increase has fallen to between 800 and 900. (This yearly decrease in the ratio of increase in the asylum population is shown to be from 5·94 in the five years 1841-46 to 2·57 in 1868.)

M. Lunier accounts for the apparently greater number of cases of Insanity by the increased confidence felt by the people in asylums, and the decreased tendency to conceal the occurrence of madness in their families. Dr. Lunier, however, excludes from this satisfactory conclusion "the Insanity resulting from alcoholic abuse, and still more that form termed General Paralysis of the insane, which I am tempted to call the disease of this century, and which appears to increase not only in the large towns but also for many years past in the smaller centres of population with most alarming rapidity." He adds, "Fortunately, the extension of mental disease

is to some extent counterbalanced by its diminution in France in the cases of Cretinism and Idiocy."*

The only other country to which we shall refer is America, and it may be of interest to the reader to have the details of each State, obviously imperfect as they are, though based on the first volume of the 'United States Census of 1870,' which contains the "Population and Social Statistics," and the second volume, which comprises the Census of the insane and the idiotic, but is not published. We are indebted to Dr. Earle for having obtained from Dr. Jarvis the "advanced sheets" of that part of the volume. Dr. Earle informs us that "the numbers are undoubtedly much too low." He thinks (though not demonstrable) "that 50,000 is for the *insane* an estimate which does not exceed the actual number. Dr. Jarvis, basing his estimate upon the number of insane which he as Commissioner found in this State in 1854 (1 to every 421 of population), makes the present number in Massachusetts 3982 instead of 2662."

States.	Population.	Insane.	Idiotic.
Alabama ...	996,992	555	721
Arkansas ...	484,471	161	289
California ...	560,247	1146	87
Connecticut ...	537,454	772	341
Delaware ...	125,015	65	69
Florida ...	187,748	29	100
Georgia ...	1,184,109	634	871
Illinois ...	2,539,891	1625	1244
Indiana ...	1,680,637	1504	1360
Iowa	1,194,020	742	533
Kansas ...	364,399	131	109
Kentucky ...	1,321,011	1245	1141
Louisiana ...	726,915	451	286
Maine ...	626,915	792	628
Maryland ...	780,894	733	362
Massachusetts ...	1,457,351	2662	778
Michigan ...	1,184,059	814	613
Minnesota ...	439,706	302	134
Mississippi ...	827,922	245	485
Missouri ...	1,721,295	1263	779
Nebraska ...	122,993	28	25
Nevada ...	42,491	2	2
New Hampshire ...	318,300	498	325
New Jersey ...	906,096	918	436

* Quoted by Dr. Robertson in his second article "On the Alleged Increase of Lunacy," in the 'Journal of Mental Science,' January, 1871.

States.	Population.	Insane.	Idiotic.
New York ...	4,382,759 ...	6353 ...	2486
North Carolina ...	1,071,361 ...	779 ...	976
Ohio	2,665,260 ...	3414 ...	2338
Oregon ...	90,923 ...	122 ...	55
Pennsylvania ...	3,521,951 ...	3895 ...	2250
Rhode Island ...	217,353 ...	312 ...	123
South Carolina ...	705,606 ...	333 ...	465
Tennessee ...	1,258,520 ...	925 ...	1091
Texas ...	818,579 ...	270 ...	451
Vermont ...	330,551 ...	721 ...	325
Virginia ...	1,225,163 ...	1125 ...	1130
West Virginia ...	442,014 ...	374 ...	427
Wisconsin ...	1,054,670 ...	846 ...	560
Total of States ...	38,115,641 ...	36,786 ...	24,395

This for the United States is a proportion of 1 insane or idiotic to 622 of the population—of course, too low. In 1860 it was calculated to be 1 in 738.

Dr. Lockhart Robertson, in an able article on "The Alleged Increase of Lunacy," in the 'Journal of Mental Science,' April, 1869, has endeavoured to show why, on various grounds, this increase may be only apparent. Among these is the working of the "Irremovable Poor Act of 1861," which rendered pauper lunatics chargeable upon the common fund of the union instead of on the parish. The guardians, being no longer afraid of burdening the parish rates, more insane and idiotic were sent to the county asylums. Dr. Duncan, however, observes that "On comparing the proportion of the lunatics to the general population in 1862, 1863, and 1864, when this increase of admissions into asylums would have taken place, there is no proof of any great access to the number of known lunatics, and simply because they were all allowed for in the returns of the Commissioners before the passing of the Act."

(By quoting in his article in the Journal for January, 1871, this and other conclusions opposed to his own which have been arrived at, Dr. Robertson has set a good example of an inquirer simply desirous to arrive at the truth of this important question.)

Again, it is urged, and justly, that the opening of county asylums not only in the first instance made an enormous difference in the apparent increase of insanity, but has continued to do so, in proportion to their number, as they have provided more and more accommodation. Another reason for the great increase in reported lunacy, at least during the last twenty years, is also to be found in the circumstance that union medical officers have during that period been required to report the number of pauper lunatics outside asylums.

A comparison between the numbers of the private and pauper lunatics in 1857 and 1872 shows that the latter have increased to a much greater extent than the former, although during that period there has certainly been no decrease, but the reverse, in the higher classes of society.

As the class of patients among whom there has been an apparent increase of

Insanity is, as above stated, the pauper one, it is evident that the reasons already given to account for this circumstance have much force, with the exception, it may be, of the first. We are not prepared, however, to represent their value in figures, and therefore we cannot say that they wholly account for it, and that there is no real increase of lunacy; indeed, Dr. Robertson, in a subsequent article, although maintaining his position, admits that the problem is still in some respects "unsolved." It must be remembered that one reason why pauper lunatics appear to increase more than private lunatics is that if a poor man becomes insane he cannot be kept at home, and he is quickly sent to the nearest county asylum, while a rich man either remains at home under the care of his medical attendant or is sent to Scotland or the Continent. Dr. Robertson points out that during the period he takes for his inquiry, 1844 to 1868, the rate of increase of admissions into asylums is in a yearly decreasing ratio, being in the five years between 1844-49, 5·64 per cent.; 1849-54, 6·09 per cent.; 1854-59, 3·41 per cent.; 1859-64, 4·83 per cent.; 1864-68, 3·82 per cent.

Dr. Robertson also shows that the accumulation of lunatics in asylums during the ten years ending 1868 (*i.e.* admissions, *minus* discharges and deaths) amounted to about 10,000, and that this in itself explains the fact that during the same period there was an apparent increase of some 10,000 in the population of the English asylums. Dr. Thurnam, in his Report (1870), points out that although in Wilts the numbers in the county asylums have within fifteen years (1855-70) risen from 289 to 457, "on turning to the annual admissions, which roughly correspond with the *occurring* cases, it will be seen that these are on the whole very uniform, and even show a slight decrease. . . . So long as the recoveries (or discharges) and deaths are less numerous than the admissions the numbers in the asylum must progressively increase. During four of the last five years, the deaths have been below the average, which whilst speaking well for the sanitary arrangements, fully explains the augmentation in the actual numbers under care" (p. 26).

Dr. Crichton Browne's observations in his Report for 1868, in which he strongly dissents from the view that the increase of Insanity is only apparent, are so much opposed to what is generally supposed to be the history of asylum life that they should find a place here. At the Wakefield Asylum he finds, 1st, that the average death-rate of the last ten years, 1858 to 1868, has been equal to what it was from 1818 to 1828, so that no accumulation of lunatics can be attributed to a reduced mortality; 2nd, that the average rate of recovery from 1858 to 1868 has been only slightly lower than it was from 1818 to 1828, so that no accumulation of lunatics can be attributed to a diminished return of discharges; and 3rd, that the average duration of the mental disease in those patients who have died or have been discharged from 1858 to 1868 has been considerably shorter than it was from 1818 to 1828, so that no accumulation can be attributed to a prolongation of the duration of the disease. ('Journal of Mental Science,' January, 1871.)

Dr. Brushfield, in his Annual Report of the Surrey County Asylum (1872), says he believes that the reasons assigned for the increase in the numbers of the insane, short of a greater liability to Insanity, "appear altogether insufficient to explain the large steady and progressive annual increase still going on." He gives statistical proof that in the county of Surrey, with due allowance for population, Insanity is progressively increasing. ('Journal of Mental Science,' July, 1872.)

Dr. Arlidge ('Brit. and For. Med. Rev.,' April, 1870) observes that the comfortable conclusion that no positive augmentation of Insanity has taken place, and that we are even not so mad as we were some years ago, is not supported by the statement of the Commissioners. "The ratio of admissions of certified insane persons to the popula-

tion appears to have been 1 to 2115 in 1859, and 1 to 1931 in 1868, and the average annual increase of the admissions appears to have been about 2·04 per cent., the average yearly increase of the population being estimated at 1·11 per cent." He adds, "This fact indisputably points to an absolutely increased production of lunacy in the community—a positive growth, distinct from augmentation resulting from accumulation. At the same time accumulation is chiefly chargeable with the large relative increase, as above quoted, of 45 per cent. among lunatics in the course of the past ten years."

The author of an article in the 'North British Review,' March, 1869 (attributed to Dr. Arthur Mitchell), thus sums up:—"That there is an enormous increase of the numbers of the insane *in asylums;* that this increase is steadily progressive and gives no indication of a tendency to pause; that the increase of the population accounts for much of this, but not for the whole, and that the part so unaccounted for is not such as to indicate any marked growth in the people's liability to insanity."

II. Relative frequency of the Various Forms of Mental Disorder.—A difficulty arises from the various senses in which the same terms are employed. We have ascertained the form on *admission* from a considerable number of Asylum Reports, and believe that the difference which exists between them is chiefly occasioned by the different views entertained in regard to "Monomania." When it constitutes a separate and important division, under which are included Monomania of Pride and Vanity, &c., and the several forms of Moral Insanity, the proportions per cent. (exclusive of Idiocy) appear to be usually as follows:—Mania (acute and chronic), 50; Melancholia, 30; Dementia, 11; Monomania, 8 or 9. When, however, few or no cases are referred by the reporter to "Monomania," the admissions under the head of "Mania" are proportionately increased. Probably most who employ the term Monomania mean Delusion on one class of subjects. In Dr. Boyd's statistics, about to be referred to, the term is not employed "unless the power of reasoning correctly on subjects unconnected with the illusion is retained." If Melancholia should connect itself with the subject of Delusion, the case would be classed as Melancholia.

A very different proportion would appear, if we calculated the relative frequency of the various forms when the patients *die*, the largest number at the time of death being examples of Dementia (frequently complicated with General Paralysis). The next form of Insanity in order of frequency, at the time of death, is Mania (usually chronic); then Melancholia; and lastly Monomania.

From Dr. Boyd's article on "Vital Statistics," based on 2000 male and female admissions into the Somerset County Asylum,

we calculate the proportions relative to the forms of Insanity admitted. (See 'Journal of Mental Science,' Jan., 1865.)

Excluding the re-admissions, the Forms of Mental Disorder on admission were as follows:—Mania 42·8 per cent., Melancholia 18·34 per cent., Dementia 10·6 per cent., Monomania 5·3, General Paralysis 5·1 per cent., Idiocy 4·2 per cent., Moral Insanity 1 per cent., Epilepsy constituted 10·7 per cent.

Of the male admissions the proportions per cent. were as follows:—Mania 39·42, Melancholia 15·17, Dementia 9·19, Monomania 62·06, Idiocy 5·51, General Paralysis 8·27, Moral Insanity 1·39, Epilepsy 12·18.

Of the female admissions the proportions per cent. were as follows:—Mania (including Puerperal Mania 5·9) 46·3, Melancholia 21·5, Dementia 12, Monomania 4·4, Idiocy 3·1, General Paralysis 1·9, Moral Insanity nearly 1, Epilepsy 10·1.

The following table shows the forms of the disorder on admission at various periods of life:—

TABLE *showing the form of Mental Disorder and the period of life in* 2000 *cases admitted into the Somerset County Asylum.*

Age.	Mania.		Recurrent Mania.		Puerperal Mania.		Monomania.		Melancholia.		Dementia and Fatuity.		Moral Insanity.		General Paralysis.		Delirium Tremens.		Idiocy.		Epilepsy.		Total.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Under 20 years . .	14	21	...	...	...	...	...	2	4	3	...	...	1	1	...	...	...	...	19	5	15	7	53	39
From 20 to 25 . .	16	34	5	5	...	6	...	2	10	27	1	5	...	...	...	...	1	...	13	4	20	15	66	98
„ 25 „ 30 . .	33	31	5	11	...	15	8	3	12	20	5	6	3	1	3	...	1	...	4	4	14	16	88	107
„ 30 „ 35 . .	34	41	7	7	...	9	7	4	9	25	7	8	4	2	13	4	6	...	2	3	9	10	98	113
„ 35 „ 40 . .	34	41	12	7	...	12	8	6	14	11	10	8	2	3	14	3	6	1	..	3	12	13	112	92
„ 40 „ 45 . .	38	27	5	6	...	8	4	4	12	28	6	7	1	...	15	4	4	...	1	2	14	6	100	102
„ 45 „ 50 . .	28	26	10	7	...	2	7	6	8	15	7	7	...	...	16	3	3	...	3	2	7	8	89	76
„ 50 „ 55 . .	18	23	12	5	...	...	6	3	14	20	4	8	...	...	5	2	1	...	3	..	3	3	66	64
„ 55 „ 60 . .	11	16	8	5	...	...	10	4	10	9	6	11	...	...	3	1	1	...	1	4	4	2	54	52
„ 60 „ 65 . .	17	21	4	3	...	...	2	3	27	22	8	11	1	...	...	...	...	...	...	...	2	...	61	60
„ 65 „ 70 . .	12	8	2	2	...	...	1	...	7	5	10	10	...	...	1	...	...	...	2	...	3	2	38	27
„ 70 „ 75 . .	4	7	8	1	...	...	1	2	4	3	5	16	...	...	2	...	...	...	...	...	3	1	27	30
„ 75 „ 80 . .	5	2	...	...	...	...	...	...	1	...	4	2	...	...	...	...	...	...	...	...	...	...	10	4
„ 80 & upwards	1	1	...	...	...	...	...	...	...	...	7	6	...	...	...	...	...	...	...	...	...	...	8	7
Total	265	293	78	59	...	52	54	39	132	188	80	105	12	7	72	17	23	1	48	27	106	83	870	871
Readmissions . .	27	63	32	67	...	7	9	3	26	30	1	2	8	1	5	...	19	...	1	1	2	5	130	129
Gross total . . .	292	356	110	126	...	59	63	42	158	218	81	107	20	8	77	17	42	1	49	28	108	88	1000	1000

The following table, showing the forms of Insanity admitted into the Fife and Kinross Asylum during four years, and thrown together from Dr. Batty Tuke's 'Annual Reports,' 1869—1872 (inclusive), will serve as a good example of one arranged on a somato-ætiological system, combined with a grouping of the prominent symptoms :

Forms of Disease.	Symptoms.										Total.		
	Idiocy.		Delusional Insanity.		Dementia.		Melancholia.		Mania.				
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	Total.
Idiopathic Insanity (Sthenic) } Idiopathic Insanity (Asthenic) }	...	...	1	5	6	7	6	9	11	14	24	35	59
Insanity of Masturbation	...	...	...	...	...	...	1	...	...	...	1	...	1
Insanity of Alcoholism	...	...	2	...	3	1	1	2	10	6	16	9	25
Ovario-Mania	...	...	...	1	...	...	...	...	...	1	...	2	2
Insanity of Pregnancy	...	...	..	...	...	...	...	1	...	2	...	3	3
Puerperal Insanity	...	...	...	...	...	1	...	...	...	5	...	6	6
Insanity of Lactation	...	...	...	...	...	1	...	1	...	5	...	7	7
Insanity of Tuberculosis	..	...	4	2	...	...	2	2	2	1	8	5	13
Hysterical Insanity	...	...	...	...	...	...	...	...	...	4	...	4	4
Post-febrile Insanity	...	...	1	1	...	2	...	..	2	...	3	3	6
Traumatic Insanity	...	...	..	...	2	...	...	...	...	...	2	...	2
Epileptic Insanity	...	...	...	...	...	2	...	...	...	...	...	2	2
Phrenitic Insanity	...	...	...	...	...	...	...	...	...	1	...	1	1
Metastatic Insanity	...	...	...	...	...	...	...	3	...	1	1	3	4
Insanity with Paralysis	...	...	1	...	2	...	1	...	...	...	4	...	4
Limopsoitos	...	...	...	1	...	...	...	...	...	...	...	1	1
Climacteric Insanity	...	...	4	5	...	2	14	12	1	10	19	29	48
Senile Insanity	...	...	...	...	1	2	...	2	1	4	2	8	10
General Paresis	...	...	1	1	2	...	...	...	...	...	3	1	4
Congenital Idiocy	3	5	...	...	...	...	...	...	...	...	3	5	8
Total	3	5	14	16	16	18	25	32	27	54	86	124	210

The subjoined summary by Dr. Boyd of his table will be of use to the reader :

"In early life, Idiocy (not complicated with Epilepsy) and Epilepsy prevailed amongst the males, nearly two thirds of the cases being of these classes, as might be expected, the one being congenital, and the other usually a disease originating in early life; whilst among the females at the earlier periods, Mania was the most prevalent form, and the cases of Idiocy and Epilepsy were not half so numerous as in the males," the reverse of what is stated by Copland. "The annual reports of this institution have shown a preponderance of male Epileptics. The greater size of the head of the male fœtus, and consequently the greater difficulty and liability to injury in parturition, renders the males more liable to convulsive diseases in early life. On December 31st, 1862, of 71 Epileptics, 38 were males. From 25 to 55,

Mania was the most prevalent form of Insanity in both males and females. Melancholia was most common in males from 60 to 65, in female patients from 20 to 35 and from 40 to 45; on the whole, it was most frequent in females. Monomania was more common in males than females from 25 to 60. Dementia occurred from 30 to 60, after which, cases of (senile) fatuity were included; it prevailed most among females. Cases of General Paralysis occurred from 30 to 60, and were four times greater among males than females. Delirium Tremens occurred from 35 to 45, and was almost exclusively confined to males, and the readmissions of these patients once affected with delirium tremens were in a large proportion to their numbers. The other cases of admissions were chiefly cases of recurrent Mania and of Melancholia. The cases of Mania and recurrent Mania were the most numerous in both sexes, but most so in the females," contrary to the statement of Copland. Dr. Boyd observes that his statistics confirm the remark of Esquirol that "Insanity may be divided into Imbecility for childhood, Mania and Monomania for youth, Melancholy for mature age, and Dementia for advanced life." With regard to partial Insanity, under which Dr. Boyd comprises Monomania, Melancholia, and Moral Insanity, there were not many cases under 20; "but at the next period, from 20 to 30, when the feelings and affections are fully developed, the cases were numerous amongst females. In the next period, from 30 to 40, the numbers were more nearly equal between the sexes, but still greatest amongst females; and again from 40 to 50 the proportion of females was much greater than of males, the cases of Melancholia being more than double. After 50, these cases rapidly diminished in number, especially amongst females, the number amongst the males gradually exceeding those of the females at the later periods of life; on the whole, the females were more numerous than males. . . . Moral Insanity occurred before the middle period of life; the cases are few (18). Melancholia is the most common form of partial Insanity. . . . Some of this class have no disorder of the understanding, and manifest no delusion."

"Of the 189 cases of Dementia none occurred before the age of 20, and only six from 20 to 25; as age advances, the numbers gradually increase to the latest period of life, and in this respect it differs from every other form of Insanity."

"The earliest period at which General Paralysis occurred was from 25 to 30. From 30 to 40 there were 27 males and 7 females. From 40 to 50 there were 31 males and 7 females. From 50 to 60 and upwards there were 11 males and 3 females. The total numbers were 72 males and 17 females.

"There were 75 cases of Idiocy, exclusive of those cases complicated with Epilepsy which have been included with the 189 cases of Epilepsy." (Op. cit., pp. 496—502.)

III. **Proportion of Recoveries. Prognosis.**—The method of calculating the proportion of recoveries has been the subject of some difference of opinion, and has involved a corresponding diversity of practice. Very generally, however, and, in our opinion, correctly, the recoveries have been calculated on the admissions. Dr. Farr, on the contrary, has, in some instances, calculated the recoveries upon the discharges. The superiority of the former method has, we think, been conclusively shown by Dr. Thurnam.

From the elaborate statistical tables of the latter it would

appear that during a term of years, the recoveries in a large number of British, American, and Continental Asylums varied, at the period at which he wrote, from about 25 to 50 per cent. An examination of the later reports of asylums for the insane will show that the difference between the *maximum* and *minimum* continues to be very similar; of course, in asylums where only curable patients are admitted, the percentage of cures will be much higher—60 per cent., for example, as has happened at St. Luke's during a term of ten years. It is quite as true as when the 'Statistics of Insanity' was published that, "as regards the recoveries in asylums which have been established during any considerable period,—say twenty years,—a proportion of much less than 40 per cent. of the admissions is, under ordinary circumstances, to be regarded as a low proportion, and one much exceeding 45 per cent. as a high proportion" (p. 136). Dr. Kirkbride's last Report of the Pennsylvania Hospital for the Insane shows a percentage of recoveries on the admissions (6390) since its opening in 1841 up to 1872, of 46·8, being for males 44·7, and for females 49·2. At the York Asylum, from January, 1846, to December, 1872, of 1029 admissions, 418 or 40·6 recovered; being for males 39·8 per cent., and for females 41·7.

On examining the Reports of eleven Dutch asylums for pauper and private patients, we find that the recoveries, during a certain number of years, amount to 32·4. In the last Report of the Lunacy Commissioners (1872) the recoveries in the Lunatic Asylums, Hospitals, Licensed Houses, &c., in England and Wales, during thirteen years (1859—1871) are given. It appears that of the patients admitted during this period, 33·87 per cent. were discharged cured. The percentage for each year was about the same. The proportion of recoveries was highest in Registered Hospitals (39·5); then follow County and Borough Asylums (35·47); Provincial Licensed Houses (31·72); Metropolitan ditto (26·84); Naval and Military Hospitals (20·39); Criminal Asylum (12·45). In considering the probabilities of recovery in any case of Insanity the following points must be regarded.

1. It is of great practical importance to remember that the chances of cure are very much greater in recent than in chronic cases. This is clearly shown by the experience of the Retreat in the following table

TABLE.—*Showing the Average Proportion of the Recoveries, in Cases of Recent and Longer Duration when admitted,* 1796 *to* 1872.

Duration of Disorder when admitted.	Proportion of Recoveries per cent. of Admissions.		
	Male.	Female.	Mean.
First Class—First attack, and within 3 months .	69·79	74·10	72·13
Second Class—First attack, above 3, and within 12 months	43·03	42·81	43·01
Third Class—Not first attack, and within 12 months	57·84	65·16	61·96
Fourth Class—First or not first attack, and more than 12 months	12·21	20·10	16·44
	Male.	Female.	Total.
Percentage of cases recovered . .	40·90	48·17	44·90

From the above it will be seen that when the disease was taken in time—treated within three months—above 70 per cent. of the patients admitted into the Retreat up to the present year have been cured. By some physicians the proportion is stated to have been higher, but this will often happen within a short and not a longer term of years. Thus, at the Retreat the proportion of recoveries in the same recent class of cases was, up to 1840, about 80 per cent. Further, if any unpromising cases (those, for instance, which are complicated with epilepsy or paralysis) are excluded by those who make the report, the fact of still more favorable returns is easily explained. In a table of the Lunacy Report it appears that of 2209 patients admitted in 1857, the duration of whose disorder was under *one month,* 1125, or 50·9 per cent., and of those insane under three months, 48 per cent., were discharged cured in the three years 1857—1859. Of those admitted who had been insane six years and upwards, only 5 per cent. recovered. This, although an interesting, is, it will be seen, only a partial picture of results. To be of real value a long term of years, as in the above table, must be taken.

The experience of the York Asylum from 1846 to 1872 shows, as Dr. Needham observes, "that so great is the evil influence which delay in the treatment of Insanity exercises, that while of 697 cases brought under care within twelve months of the attack, 377 or nearly 54 per cent. recovered, only 41 out of 332, or a little

over 12 per cent., recovered, where treatment had been delayed twelve months."

Cases of recovery after the disorder has lasted many years are not, however, wanting. Dr. Buttolph, in one of his Annual Reports, records the case of a female who recovered after being insane eighteen years, and a male after six years. In the Report of the Devon Asylum (1850) is mentioned the recovery of a female patient who had been maniacal for twenty years. Rush relates the case of a farmer who recovered after being insane eighteen years. Other examples will be mentioned in the descriptive chapter.

Lastly, it may be observed that in the experience of the Retreat more than one third have been discharged within six months after admission. The average duration of residence has been about a year and four months.

There are various other circumstances, besides the duration of the disorder, which affect the prospect of recovery. Among these may be enumerated the form of the disorder, physical complications, and the occurrence of acute disease, the cause of the attack, age, sex, civil or social condition, hereditary predisposition, and the season of the year.

2. In illustration of the influence of the form of the mental disorder upon recovery, we may adduce the experience of Dr. Kirkbride, of the Pennsylvania Hospital for the Insane, from its opening in 1841 to 1873, during which period 2994 patients were discharged cured. The proportion of the cures on the admissions were for Mania 57 per cent.; for Melancholia they amounted to 48 per cent.; for Monomania, 46 per cent.; and, lastly, for Dementia, 9 per cent.—most of which, it is scarcely necessary to observe, were of the acute form.

Dr. Earle, in his recent tables already referred to, gives the following percentages:

	Admitted.	Discharged.		
Mania,	Of 268 men,	111 recovered	= 41·34	per cent.
„	280 women,	103 „	= 36·78	„
„	548 both sexes,	214 „	= 39·05	„
Melancholia,	Of 74 men,	17 „	= 22·97	„
„	73 women,	18 „	= 24·65	„
„	147 both sexes,	35 „	= 23·81	„
Monomania,	Of 11 men,	6 „	= 54·54	„
„	8 women,	3 „	= 37·50	„
,	19 both sexes,	9 „	= 47·36	„

	Admitted.	Discharged.	
Dementia,	Of 170 men,	13 recovered =	7·65 per cent.
„	127 women,	12 „ =	9·44 „
„	297 both sexes,	25 „ =	8·41 „

Dr. Earle adds that these results do not differ greatly from his opinions as derived from observation, with the exception of those relating to Monomania; it being, in his experience, the most incurable of all. They were with two exceptions, admitted before Dr. Earle's superintendence, and he has reason to believe they were cases of Dipsomania, and incorrectly entered under Monomania. Of 29 cases of Dipsomania, 24 "recovered" in the sense of being restored to sobriety—Dr. Earle observing that his experience convinces him that "there is little hope of recovery from the habit so long as there is no legal authority for the detention of its subjects for a much longer period than they will voluntarily remain under restraint."

At the York Asylum, during twenty-seven years, of 457 cases of Acute Mania admitted, 292, or 63·89 per cent., recovered. Of 110 cases of chronic ditto 7, or 6·36 per cent., recovered. Of 250 cases of Melancholia 118, or 47·2 per cent., recovered. Of 157 cases of Dementia 1 recovered.

Dr. Boyd's statistics of admissions (1741 in number, exclusive of re-admissions) and recoveries at the Somerset County Asylum, may be thus tabulated:

Form of Disorder.	Recovered.	
	Males.	Females.
Mania—		
Under 20 years of age . .	86	91
All ages	48·1	47·1
Melancholia	43·9	46·8
Monomania	31·4	36·8
Dementia	...	7·0

The cases of Moral Insanity are too few to render it safe to draw any inference; 7 out of 12 males and 4 out of 7 females recovered.

3. Among physical complications, the presence of epilepsy, while it does not necessarily prevent partial recovery, renders a permanent cure highly improbable. Dr. Boyd, however, gives a

proportion of 6·6 per cent. for men, and 7·1 for women. Apoplexy or paralysis is so grave a complication that some writers speak of the accompanying mental disease as hopelessly incurable; but while this is the general rule, we have known some striking exceptions. Paralysis may remain and the mind recover. We do not include in these remarks the general paralysis of the insane, lasting recovery from which the writer has not himself witnessed. The blood-tumour of the ear, first described by M. Ferrus ('Gazette des Hôpitaux,' 1838), adds, when present, and not due to violence, to the serious nature of the case, so far as it indicates that nutrition is much below par. At any rate, the cases in which it is observed are usually incurable forms of Insanity.

Although no doubt occasionally, perhaps frequently, the result of a blow or fall, there can be no reasonable doubt that *hæmatoma auris* may occur independently of either, and, further, may arise in low conditions of the system in the insane. In the July number of the 'American Journal of Insanity,' 1870, Dr. Hun gives the details of twenty-four cases. It is noteworthy that only one was a female; eight patients laboured under General Paralysis, six under Melancholia, four under Acute Mania, four under Chronic Mania, two under Dementia.*

Dr. Stedman, in a Report of the Boston Lunatic Hospital, observes, that "a man who had been insane above twenty years and was very unmanageable, was attacked with dysentery and remained dangerously ill for some weeks. He recovered from dysentery, and now no patient in the house is more quiet and controllable, indeed, to many he would appear mentally sound." Cases of temporary recovery of the intellectual powers from the accession of an acute disorder may here be referred to, such as the rare case of the female related by S. Tuke in his 'Description of the Retreat,' who, after being demented for many years, was

* In nine instances both ears were affected; the right alone in nine, and the left in five cases; in one not stated. Dr. Hun considers that "it arises from cerebral congestion or centripetal irritation of the sympathetic system by the Emotions." See Magnan's views on this tumour in the 'Annales Médico-psychologiques,' May, 1871; also the 'Journal of Mental Science,' 1854, for "Fischer's Researches," translated by Dr. Arlidge, and the same Journal for July, 1862, for Dr. Gudden's views. Now, in nine of the cases the patients died in the asylum, in the same number they were discharged unimproved, while the six remaining were cases of dementia.

attacked by typhus fever. During the stage of excitement when others are usually delirious, she was entirely rational. "She recognised in the face of her medical attendant the son of her old master whom she had known so many years before; and she related many circumstances respecting the family and others which had happened to herself in her earlier days. But, alas! it was only the gleam of reason; as the fever abated, clouds again enveloped the mind, she sank into her former deplorable state, and remained in it until her death, which happened a few years afterwards."

The following circumstances happening during an attack of Insanity may act favorably upon the disease:—Discharges of any kind after being suppressed, parturition, cutaneous eruptions, sudden moral shocks, accidents. We know of a case in which a very severe fall upon the head had the happy effect of causing recovery.

4. With regard to the relation of the cause of attack to recovery, it may be observed, that so far as the experience of the Retreat goes, physical causes have appeared most to interfere with the prospect of recovery among the female patients; while among the males, those cases which were due to moral causes have recovered least favorably. Those arising from intemperance often rapidly recover, and remain well while under asylum supervision, to relapse when again exposed to the original occasion of the attack. The generally favorable termination of puerperal cases will be seen in the section on this form of Insanity. Insanity occurring after fever is often permanent, but is also not unfrequently recovered from in the most satisfactory manner. Too much importance must not, therefore, be attached to continued fever as a cause, unless its form has been such as to involve primarily, and seriously impair, the cerebral functions. The result of those cases of Insanity which follow traumatic affections of the head is unfavorable, though we have known remarkable exceptions to this general rule. Those due to sexual vice are very unpromising, ever tending to dementia.

5. In referring to age, it may be stated that at Bethlem, of those admitted under twenty-five, about three fifths have recovered; between thirty and sixty-five, about one half were cured; and of admissions after the last-mentioned age, about one seventh recovered. At the Somerset Asylum the most favorable age for

recovery has been from twenty-five to thirty-five, amounting to nearly 42 per cent. of the whole, the admissions being more frequent at this decade, and the prevailing form of Insanity being Mania (Boyd). Insanity in the very young cannot be regarded hopefully. First attacks of Insanity after fifty are very unfavorable. In any case recovery after fifty is rare. In Dr. Boyd's Tables out of 2000 admissions (including re-admissions) 746 were discharged cured, and of these 153 recovered after fifty, 74 after sixty, and 15 above seventy. It is needless to add that, when loss of mental power is caused by advanced age, recovery is hopeless, although there may be transient gleams of intelligence. The writer knows a case, that of an elderly lady, who, after being the subject of senile dementia for years, spoke rationally for a short time within twenty-four hours of her death. It is a popular belief that this brightening before death is frequent with the insane generally. In the writer's experience, however, it is extremely rare.

At the York Retreat this alleviation of the symptoms, so far as it has been observed and recorded, took place most frequently in Mania. Dr. Thurnam's statistics record 8 cases out of 33 of Mania, as many out of 45 cases of Melancholia, and 2 cases out of 14 of Monomania, in which a decided improvement occurred. Of these, however, "there were three cases in which the patient was considered convalescent and was taken off suddenly by such disorders as apoplexy and epilepsy." The less frequent fact of the aggravation of the disorder was observed in two cases of Melancholia. Rush says, "Most mad people discover a greater or less degree of reason in the last days or hours of their lives. Cervantes therefore discovers both observation and judgment in bringing Don Quixote to his senses just before he dies. Thus the sun after a cloudy day sometimes darts a few splendid rays across the earth just before he descends below the horizon. I have ascribed this resuscitation of reason in the paroxysm of death to the diseased blood-vessels relieving themselves by an effusion of water in the ventricles of the brain, or to the remains of the excitement of the system, awakened by fever or pain, taking refuge in the mind" ('On the Diseases of the Mind,' p. 256).

6. As regards sex, in relation to recovery, it has been found at Bethlem that there is not so much difference between the sexes

as some other statistics indicate. During ten years, 54·4 per cent. recovered among the females, and 53·8 among the males. (Op. cit., p. 27.) At the Retreat (from 1796 to 1861) the difference in favour of the women was, however, as great as 5·5 per cent. Up to 1872 this difference was about 7 per cent. At St. Yon (Rouen) the excess was about 6 per cent. (Parchappe). At the Somerset Asylum (Dr. Boyd's tables) it was 3, and at the York Asylum (Dr. Needham's tables) about 2 per cent.

7. There has been only a slight difference observable at Bethlem in the recoveries of the married and unmarried, namely, *married* 54·9, *unmarried* 53·8, and *widowed* 50 per cent.

8. Hereditary predisposition is unfavorable to permanent recovery; that is to say, although it does not always injuriously affect the probability of cure in the first instance, it renders relapses much more probable.

A higher percentage of recoveries in hereditary than in non-hereditary cases is shown by some statistics, as in the following table of the Crichton cases.

Crichton Cases.

	Hereditary cases.		Non-hereditary cases.	
	No. of cases.	Percentage.	No. of cases.	Percentage.
Recovered . . .	163	36·9	79	32·2

Other statistics exhibit an opposite result, the explanation being that one class of hereditary cases marked by a sudden explosion of Insanity is favorable, and another characterised by a long incubation is unfavorable to recovery. Dr. v. Krafft-Ebing, in the 'Allgemeine Zeitschrift für Psychiatrie,' 1869, has classified hereditary cases and noted the recoveries in each class. In the first (corresponding to the above) about 58 per cent. were cured, in the second (the slow progressive cases) about 15 per cent., and in a third class, that, namely, marked by congenital Moral and Intellectual Imbecility, *nil*. Hence he concludes that hereditary predisposition is only favorable for a certain class of cases, and must be admitted to aggravate the prognosis in those instances in which early signs are exhibited of the disease.

The greater tendency of hereditary Insanity to relapse is shown by the experience of the Crichton Institution as given by Stewart

(op. cit.), (which the reader may compare with the table given at p. 138 of this work showing the relapses at the Retreat in cases of Insanity generally), the percentage for the first attack being 78·07, and for the not first attack being 21·92. Hood's corresponding figures at Bethlem are, first attack, 67·62, not first attack, 32·37.

9. The season of the year which has a beneficial influence upon recovery is one neither of extreme heat nor cold. At St. Yon the autumn quarter has proved the most favorable, the winter quarter the reverse. Thus, 518 cures were distributed as follows: —Winter quarter (December, January, February), 92; spring (March, April, May), 123; summer (June, July, August), 145; autumn (September, October, November), 158. We see, however, that at the Pennsylvania Hospital Dr. Kirkbride's statistics as to the period of recovery from 1841 to 1873 show the following result: —Total number of cures 2994. Winter quarter, 659; spring, 710; summer, 817; autumn, 808; giving the highest number for the summer quarter. The largest number recovered in July. In comparing this with the foregoing, the reader must allow for some difference between the American and French seasons.

V. **Relapses.**—But the preceding estimate of recoveries would be obviously imperfect without a consideration of the question, What proportion of those who recover subsequently relapse? Esquirol, taking readmissions as equivalent to relapses (an imperfect view of the subject, but usually the only means we have at command) calculated that out of 100 recoveries about 10 relapsed. This estimate has, however, been shown to be far below what is actually the case. Dr. Conolly reckons the relapses at Hanwell at 50 per cent.

In 1851, Dr. Max Jacobi traced the after history of 661 patients who had been admitted into the Siegburg Asylum during twenty years (1825—1845). Of these, 322 had not relapsed; 127 had relapsed once and recovered again; 64 had relapsed and appeared incurable; 11 remained under care; 137 had died, of whom 68 had not relapsed; 57 died insane, while there were 12, respecting whom no information could be procured. In the course of years no doubt more would relapse. Dr. Thurnam succeeded in tracing out the subsequent history of every patient who had been under care at the Retreat, during forty-four years, *in whom death had occurred.* As the history of each case was therefore completed,

the table which follows is of greater value than that prepared by Jacobi.

Cases followed through life.	Died insane during the first attack.	Recovered from first attack.				
		Total.	Recovery permanent. Died sane.	Had subsequent attack.		
				Died sane.	Died insane.	Total.
Males . 113	55	58	21	6	31	37
Females . 131	58	73	24	14	35	49
Total . 244	113	131	45	20	66	86

From this it appears that, of 131 cases discharged cured (after the first attack), only 45 had no return of the disorder. But of the 86 who had a return of the disease, 20 died sane. Hence, altogether, 65 or 26·6 per cent. of those who recovered died in a state of sanity.

"In round numbers, then, of ten persons attacked by Insanity, five recover, and five die sooner or later during the attack." Of the five who recover, not more than two remain well during the rest of their lives; the other three sustain subsequent attacks, during which at least two of them die. But, although the picture is thus an unfavorable one, it is very far from justifying the popular prejudice that Insanity is virtually an incurable disease; and the view which it presents is much modified by the long intervals which frequently occur between the attacks; during which intervals of mental health (in many cases of from ten to twenty years' duration) the individual has lived in all the enjoyments of social life" (op. cit., p. 123).

The 'Scotch Lunacy Report,' 1872, contains a history of 1297 cases admitted during 1858, but the period is of course limited; on the 1st of January, 1870, there remained under care 277 patients; 851 had been discharged recovered, and 260 not recovered, while 412 had died. During this period the relapses were as follows:—In the 1st year (1858), 47; 2nd year, 91; 3rd year, 65; 4th year, 50; 5th year, 42; 6th year, 34; 7th year, 34; 8th year, 20; 9th year, 35; 10th year, 29; 11th year, 28; 12th year, 24.

There is an interesting table in the Report of the Pennsylvania Hospital for the Insane (1873) showing the number of attacks on admission in 6390 cases. The facts are as follows:

Frequency of Attack.		Males.	Females.	Total.
1st attack		2485	2108	4593
2nd „		522	516	1038
3rd „		160	184	344
4th „		84	74	158
5th „		41	42	83
6th „		54	12	66
7th „		16	6	22
8th „		9	8	17
9th „		5	4	9
	In the periodical cases.			
10th „	6 M., 6 F.; 11th, 3 M., 4 F.	9	10	19
12th „	3 M., 3 F.; 13th, 1 M., 2 F.	4	5	9
14th „	1 M., 3 F.; 15th, 1 M., 1 F.	2	4	6
16th „	1 M.; 17th, 2 M.	3	...	3
18th „	4 M.; 19th, 2 M.	6	...	6
20th „	and 21st, each 1 M., and 1 F.	2	2	4
22nd „	1 M.; and to 26th, each 1 F.	1	5	6
27th „	2 F.; 29th, 1 F.	...	3	3
30th „	31st, 32nd, 33rd, each 1 F.	...	4	4

VI. Mortality.—Much diversity of practice has obtained in regard to the mode of calculating the deaths in asylums for the insane—some having calculated them on the admissions or on the discharges; while the correct method is that of taking for the basis of calculation the mean number of patients resident in an asylum—in other words, its average population.

From the Lunacy Report of 1872 we learn the annual rate of mortality during thirteen years ending December 31st, 1871. The deaths (calculated on the mean numbers resident, viz. 37,325) amounted to 10·33 per cent. The sexes are not distinguished; we may, however, repeat those given in former editions for the five years ending 1858, viz. for males 13·25, and for females only 8·96—corroborating the remarks made in a former Section, on the greater mortality of male lunatics. The mortality (for both sexes) during the above thirteen years was only 7·59 in the Registered Hospitals. In Provincial Licensed Houses it was 8·53; County and Borough Asylums, 10·84; in the Naval and Military Hospitals and Royal India Asylum, 10·80; and in

the Metropolitan Licensed Houses 10·78 per cent. In the last Report of the Scotch Commissioners, 1872, the average mortality during ten years was in Public Asylums, males 8·7, females 7·7; in Private Asylums, males 10·3, females 8·1; in Parochial Asylums, males 11·0, females 9·4; in Lunatic Wards of Poorhouses, males 8·8, females 7·9. Separating the private patients in asylums from the paupers, the average mortality calculated on the numbers resident in the thirteen years 1858—1870 was for the former class, males 8, females 6·3; and for the latter class, males 8·6, females 7·1. At the Retreat, from its opening to the year 1872, the annual mortality has been 5·21, being 6·25 among the male, and 4·47 among the female patients. At the York Asylum for the twenty-seven years ending December, 1872, the corresponding figures are, 6·81; 8·33; 5·06. The above statistics range (for both sexes) between 5 and 11 per cent., a mortality beyond which, for a mixed class of patients, must be regarded as excessive, while one of 6 or 7 per cent. is very satisfactory.

The period of the year exerts, as might be expected, an influence on the mortality of the insane. Thus, out of 1557 deaths at the Bicêtre, during eight years, the numbers, in regard to the seasons, were as follows:—Spring (March, April, May), 419; winter (December, January, February), 411; autumn (September, October, November), 382; summer (June, July, August), 345. The same proportions obtain, according to MM. Aubanel and Thore, as regards the deaths of the inhabitants of Paris itself. In both cases March is the deadliest month, owing to the sudden variations of temperature. In the table of deaths prepared by Esquirol, the maximum mortality was in winter. We may conclude that in French asylums, spring and winter are the most fatal periods of the year; then autumn, and lastly summer.

The admirable Reports of the Scotch Commissioners supply us with definite information upon this as upon so many other points of interest. It is to be regretted that all similar official Reports are not equally full and instructive. Of every 100 deaths which took place in Scotland in 1861, 54·82 occurred in winter (November—April), and 45·18 in summer (May—October). Of every 100 deaths which took place in asylums in the seven years (1865—71) 53·70 occurred in winter, and 46·29 in summer (Report, 1872).

At Bethlem Hospital, the deaths during the winter months

appear to have only very slightly exceeded those which occurred during the summer months. (Hood's 'Statistics,' p. 81.)

A most important question remains to be answered. Is the mortality greater among the insane than the sane? Undoubtedly it is. The Registrar-General's Report for 1854 gives the mortality of England and Wales for the preceding seventeen years at 2·24 per cent. for all ages. We have ascertained by inquiry at the office of the Registrar-General that the mortality for the ages above twenty is 2·53 per cent. for males and 2·48 for females. It will be seen that although this is a more correct period to take for comparison, the difference in mortality between the longer and shorter period is so slight as not materially to affect the result. Now, in every asylum for the insane, whether at home or abroad, statistics of which are published, the rate of mortality is very much higher. We have already given the mortality in the asylums of our own country; the lowest mortality being more than double the above, namely, 5·29. In eleven Dutch asylums we find the average to be 14·5. At St. Yon (Rouen) during seventeen years, it was 7·6 per cent. The average age, at the origin of the disorder, of the patients who died at the Retreat, from 1796—1840, was about 39 years, at which period the expectation of life is at least 28 years. Instead, however, of the average age, at death, of these patients being 67 (39+28), it was only 56. At the York Asylum the average age at death was 49½ and should have been 66. ('Statistics of Insanity,' p. 101.) The high mortality of the insane at various ages will be seen from the following table. We believe no more recent return has been made by the Commissioners in Lunacy than this, which is obtained from their Report for 1861, Appendix I. We have derived the mortality of the general population from the Registrar-General's Reports for the corresponding years.

TABLE.—*Showing the Mean Annual Mortality per cent. at different ages in the County and Borough Asylums, Hospitals, and Licensed Houses of England and Wales during the five years ending Dec.* 31, 1858; *compared with the Mortality at the same ages during the same years in the general population of England and Wales.*

AGE.	Insane in asylums.		General population.	
	Males.	Females.	Males.	Females.
15—25	8·26	7·87	·77	·81
25—35	10·36	7·17	·95	·99
35—45	14·35	7·66	1·26	1·20
45—55	14·44	7·36	1·77	1·50
55—65	13·70	10·35	3·06	2·74
65—70	22·41	17·22	} 6·64	5·67
70—75	...	...		
70 and upwards...	31·16	25·76	11·83	11·09
75—85	...	...	14·67	13·38
85—95	...	...	30·72	28·11

As the above is a high mortality, and extends over a short period, it may give a juster impression to add the lower death-rate of the York Lunatic Asylum (1814—1840), and the Retreat (1796—1840), which we have thrown together from table 26 and table E of the 'Statistics of Insanity.' We are unable to give the same decennial periods as in the previous table.

Age.	Both sexes.	
	Insane.	Sane.
20—30	4·18	·98
30—40	4·80	1·16
40—50	6·35	1·43
50—60	5·43	2·14
60—70	6·61	4·05
70—80	10·33	8·74
80—90	26·49	19·08
All ages	6·02	2·24

Dr. Farr has strongly insisted on the greater rate of mortality among the insane than the sane. ('Stat. Journ.,' April, 1841,

p. 24.) We have his authority for stating that he holds the same views now that he did then. It does not, however, necessarily follow, from the foregoing, that Insanity itself accounts for the whole of this shortening of life, inasmuch as the circumstances which have induced the disease (as intemperance, vice, and bodily disorders) may be the real cause of injuring the constitution, and curtailing the life of the patient, independently of mental disease. But there can be no question that a part of the high mortality of the insane is directly due to acute attacks of the disease itself proving fatal, and above all to General Paralysis.

It is clear that whatever influence Insanity has upon the duration of life when the disease is in its acute stage, and in General Paralysis, there is not anything like the same tendency in this direction when it has assumed a chronic form.

Dr. Jarvis, in his well-known Massachusetts' Report, gives, on the authority of Mr. Cappelain, the following calculations.

The average length of insane life of persons incurably deranged is—

	Males.	Females.
If attacked at 20 years of age ...	21·31 years ...	28·66 years.
„ 30 „ ...	20·64 „ ...	26·33 „
„ 40 „ ...	17·65 „ ...	21·53 „
„ 50 „ ...	13·93 „ ...	17·67 „
„ 60 „ ...	11·91 „ ...	12·51 „
„ 70 „ ...	9·15 „ ...	8·87 „

Dr. Farr states that at Bethlem and St. Luke's the annual mortality among the "curables" was 11 per cent., and only 6 per cent. among the "incurables" (chronic cases); and at Hanwell, among those in a state of Mania, Monomania, or Melancholia, it was about 12 per cent., while in cases of Dementia the mortality was 8 per cent.

It was found by Dr. Thurnam that in asylums generally, there is rarely a larger proportion than 20 per cent. of deaths in persons above 60, and that at the York Asylum it was, during a certain number of years, 26 per cent., and at the Retreat 45 per cent., and of these 11 per cent. were from 80 to 97. It may be added that the average duration of the disorder at death was above 17 years.

Summary as regards Prognosis.

The foregoing examination, by the numerical method, of the experience of Institutions for the Insane, may be thus summarised and extended—mainly in regard to recovery of mental health.

Hereditary predisposition is unfavorable to permanent recovery, but not at all necessarily so to the restoration of mental health in the first instance, some statistics showing particularly favorable results. Still, if the constitution is saturated with Insanity, signs of which have from time to time cropped up, it stands to reason that the prognosis must be much more unfavorable than in a healthily constituted person.

The primary importance of that congenital condition of the brain, which causes the greater liability, under precisely similar external conditions, of A than B (in the first instance, determining the occurrence of an attack of Insanity) must not be overlooked.

This, whether hereditary or not, must be regarded as the *fons et origo mali;* and is no more mysterious than the tendency in one person to consumption, and in another to gout. As it cannot be expected that this predisposing susceptibility shall be extinguished by an attack of Insanity, a well-marked insane diathesis must be taken into account in estimating the probability of a relapse. The prognosis must be greatly influenced by the future surroundings of the patient after he recovers.

Idiocy and Imbecility, although modern science and humanity have done much to educate idiots and imbeciles, must remain at the bottom of the scale, because they involve congenital defect in, or arrested development of, the centre of the nervous system essential to the operations of mind. On the influence of Epilepsy, see the Chapter on Idiocy.

Dementia is, with rare exceptions, incurable, the favorable cases being those of the primary form. In Senile Dementia there may be returning gleams of intelligence, but no recovery.

General Paralysis, while admitting of remissions which promise recovery, is the most unfavorable form of Insanity as regards mental recovery, and the most fatal. Hence, hesitation in speech, tremor of the tongue, an altered gait, are the worst signs that can manifest themselves in the invasion of mental disease.

Epileptic Insanity offers little hope of really permanent recovery. The exceptions are so few that it may be regarded as incurable.

Apoplexy and Paralysis are very unfavorable complications.

Perversion of the moral sense from disease must always be regarded unfavorably, except when arising in puerperal states, and in those temporary conditions which arise from sympathy with disorder of a distant organ, as in the development of the reproductive organs at puberty, or from so simple a cause as ascarides. It is important to ascertain the constitutional mental tendencies or character, for while a change of disposition is a proof of disease, the intensifying of naturally vicious traits of character may also be the result of increased diseased activity, and such a substratum as exists in these cases, renders a radical cure hopeless.

Delusional Insanity is not a hopeful form of Insanity, and Monomania, in the sense of a deeply rooted delusion or false conviction, in respect to one class of subjects, generally resists treatment obstinately. Still more unfavorable are the delusions of grandeur and riches. Hallucinations and Illusions of the senses are unfavorable, except when due to an acute or febrile condition of the system.

Insanity induced by intemperance is unfavorable, and, when it does not assume an incurable form, manifests a strong tendency to relapse after recovery.

Acute Mania is in a large proportion of cases recovered from.

Acute Melancholia, if cases which never reach an asylum are included, is, at least, as frequently cured, but certainly in asylum experience it comes next in order.

Simple depression of Mind is not unfavorable, except in the decline of life.

Climacteric Insanity is very far from being a hopeful form of mental derangement. Change of life, however, occasionally exercises a beneficial influence on those already insane.

Statistics clearly show that first attacks of Insanity occurring at

or after 50, are rarely followed by recovery, compared with attacks of earlier life, but are not, absolutely, rare.

Hysterical Insanity is usually a favorable form of mental disease.

The form of Mania known as "typhomania," &c., is most unfavorable, usually ending in death.

Sympathetic Insanity is much more curable than Idiopathic Insanity.

Puerperal Insanity is very curable, unless it assumes a phrenitic character. Dr. White, of the Buffalo State Asylum, says that his prognosis mainly depends upon the condition of the uterus. If he finds it from two to three inches (or more) larger than the normal size, he has much greater hope than when it is restored to its natural condition ('American Journal of Insanity,' 1870), but we should attach more importance to the general symptoms.

Alternations of excitement and depression, whether amounting to well-marked Circular Insanity or not, constitute a bad sign. Regular remissions cannot be regarded as favorable signs, and yet they do not unfrequently occur, in a more or less marked manner, in cases which recover. Experience certainly does not confirm the unqualified observation of Rush, that "remissions and intermissions of violent mental excitement are always favorable."

Actually periodic Insanity is not likely to pursue a satisfactory course towards recovery. If by remissions, however, Rush simply means a change in the morbid symptoms, as opposed to a constant uniformity, he is no doubt correct in his opinion.

A fear of poverty, refusal to take food, a disposition to commit suicide, suspicions of persecution, or of poison being put in the patient's food, are unfavorable signs.

The Insanity of women is, generally speaking, more curable than that of men.

Insanity, the result of fever, is not generally a very hopeful condition, but recoveries are by no means few.

Cæteris paribus, recovery is in direct ratio to the early treatment of the disorder, more than one half recovering if "taken in

time." In proportion to the continuance of the disease is the improbability of a cure. Better, then, that the disease should appear suddenly than come on gradually. So also is it better that recovery should be gradual.

The longer the period during which the causes exciting the attack have operated before inducing it, the less probability is there of cure.

Insanity caused by a prolonged moral cause appears to be less curable than when induced by one acting suddenly upon the mind, provided, however, that the shock is not so great as to involve Dementia. When a moral and physical cause combine to bring on an attack of Insanity, as in the case of vicious habits, the prospect of recovery is not favorable, and may almost be classed among hopeless mental disorders when fixed ideas are present or the conversation is unconnected. Insanity due to moral causes alone is considered by Guislain to be much more curable than when arising from physical causes.

With each attack of Insanity the probability of cure diminishes; at the same time many of the patients who relapse repeatedly recover (see Table, p. 139).

The state of the pupils in the Insane bears on the question of recovery. Dr. Nasse (Siegburg) read a paper in 1868 before the Psychiatric Society of the Rhine Provinces on the "Prognostic Value of Difference of the Pupils in Insanity," in which he says, after referring to the unfavorable prognosis usually connected with the inequality of the pupils, that he has arrived at the conclusion that "even constant inequality of the pupils in mental disorders of all kinds (except, of course, paralytic cases, in which the simultaneous occurrence of general motor disturbance entirely alters the question, and causes the difference of the iris to appear simply as a link in the whole series) does in no way justify an unfavorable prognosis, and has, generally speaking, no material significance in regard to the issue of the disease. . . . Complete and permanent recovery may follow, although this inequality of the pupils remains." He says that, although in some people (with eye disease) such inequality is also observed, it is nothing like to the same extent, and insists on the essential difference between the two, founded on the simultaneous occurrence of other

partial symptoms of paralysis, in the insane. Out of 229 patients at Siegburg only 83 failed to exhibit this difference in the pupils.

In obscure cases dirty habits often indicate organic disease, but in ordinary Mania they need not be regarded unfavorably. Cleanliness is always a favorable sign of returning health.

The recovery of physical health unaccompanied by the return of mental sanity, is unpromising as regards the ultimate recovery of the patient. Stoutness under such circumstances is frequently the harbinger of Dementia. The relation between the weight-curve and opposite mental states has recently received much attention. A case is reported in which "six times within three years, periods of excitement occurred which always gave place to symptoms of Melancholy. On the development of the former the bodily weight always began to rise, and reached its maximum when the exaltation was at its highest point. On the decrease of excitement, the weight of the body began to fall till it reached its minimum at the time of the most signal depression" (see 'Journal of Mental Science,' January, 1873, p. 614).

Restored affections are, perhaps, the strongest proof of returning mental health—are, in fact, to that extent, the restoration of sanity itself. The same observation may be made in regard to the return of proper delicacy of feeling in women.

Return to accustomed tastes or habits is always to be hailed as a favorable indication even if in so trivial a matter as a relish for gingerbread, which has been known to be the first sign of returning sanity.

Return of the mode of speaking, natural to the person affected with Insanity, is sometimes the first indication of recovery. It is said that Willis, observing George III speak in the rapid manner that was customary with him when well, declared he would recover. The case of a young man is related by Rush, who stammered before he became insane, ceased to do so when he was in the Pennsylvania Hospital, but began to stammer again when he showed signs of amendment.

The return of suspended secretions is a favorable indication. This applies especially to menstruation. It is not the less true that patients who are regular, are more instead of less excited on

the return of the period. Nor, again, can it be denied that menstruation often returns without being accompanied by the restoration of mental health; sometimes even when a case is about to pass into hopeless Dementia. Certainly there is nothing like a uniform rule in this matter.

Profuse secretions are not unfrequently critical, but (unlike Esquirol, who devotes a long chapter to the subject) we rarely speak of the *crises* of Insanity. Thus, extraordinary perspiration sometimes marks restoration of mental health; at another time cutaneous eruptions. But the term is vague, and in no instance are we in more danger of putting the cart before the horse. It implies, as ordinarily used, that the evacuation cures the disease — allows it to escape, in short; whereas, in the majority of cases, the restoration of the natural secretion, in abundant quantity, is merely one sign of returning physical and mental health.

A copious flow of tears is often a very good sign, but must not be confounded with the emotional sensibility which indicates deep-seated disease of the nerve-centres. These are as distinct as the rush of the mountain torrent after the removal of some obstruction, and the stream caused by the bursting of a water pipe.

Contrary to an old popular idea,* Pregnancy appears to exert an unfavorable influence upon mental disorder. The cases, however, at our command are too few to admit of a decided conclusion. Parturition occurring in those who have become insane during pregnancy, does not appear to excite any influence whatever in some cases, while in others the influence is bad. A case of periodic Mania (monthly) is, however, recorded, in which the symptoms were suspended during gestation and returned afterwards.

In the early stage of Insanity, restoration of sleep is a very favorable symptom, and prolonged insomnia an unfavorable one.

The occurrence of another disorder in the course of the disease, is sometimes accompanied by an amelioration or cure of the mental disorder.

* See a letter written in 1813, contributed by the writer to the 'Journal of Mental Science' in 1870 (p. 250).

NOTE.—Since the foregoing was in the printer's hands, the writer has met with an article by Dr. Ray "On the Prognosis of Insanity" ('American Journal of the Medical Sciences,' October, 1870), which reflects the valuable experience of a life devoted to the care of the insane. His conclusions, so far as they bear upon the foregoing propositions, are substantially in accordance with them.

Some of Dr. Ray's observations may be thus summarised:—Of Hereditary transmission he says: "When witnessed only in the production of an attack, the mental manifestations not having been otherwise distinguished by singularity or deviations from the conventional standard, I have seen no reason to believe that it diminishes the curability of the attack. Not so in that large class of cases where the transmitted agency has profoundly affected the normal constitution of the Mind, producing in the highest degree what has been termed the insane temperament, and in a less degree the various shades of eccentricity. Here the full development of unmistakably overt Insanity is but the last stage of an abnormal process which began with the beginning of life. Entire recovery is out of the question, and the best event we can expect is only a temporary remission—an abatement of the severity of the disordered manifestations."

Regarding Circular Insanity, Ray says that in all his experience he "cannot call to mind a single complete recovery after the vicious cycle had been clearly established. Sometimes the transition periods are considerably prolonged, and thus encourage the expectation that the other phases of the disease will never return. Time only is needed to show that such hopes are delusive. Sooner or later the patient becomes excited and depressed, and so the morbid series is continued."

Dr. Ray says that Homicidal Mania "has been generally regarded, in this country at least, as a very intractable form of disease; but I am inclined to doubt the correctness of this opinion." Dr. Ray gives reasons for this. Still, he ends with saying that, after making allowance for them, "there are unquestionably some circumstances in these cases well fitted to reduce the proportion of recoveries somewhat below the average. In most, the homicidal act is the offspring of strong delusions, indicating, probably, the severest grade of cerebral disorder short of obvious organic lesion, and in those cases where the act was prompted by some sudden impulse, or that confusion and perversion of ideas common in Acute Mania; it is not improbable that every restorative movement may be repressed by the perpetual consciousness of the terrible deed. Still, there are recoveries in this form of Insanity—enough to deter us from giving an unfavorable prognosis in every case."

In regard to Menstruation he observes, "It is not uncommon to see this function restored without any corresponding improvement of Mind; and the converse phenomenon—that of reason restored while the catamenia remain suppressed—is, perhaps, no less common. I would not be understood to deny that a sudden cessation of the menses while flowing may be an exciting cause of Insanity where the predisposition exists; while, therefore, we should be careful not to expect too much from a return of the menses, we may certainly regard it as a ground of hope in reserve."

Of cases of Insanity in the young, occurring several years before puberty, he remarks that he has not often seen them cured. "Most cases end in death or complete imbecility. The ætiology of these cases is involved in great obscurity. In the most of those which have met with my attention, it was impossible to arrive at any satisfactory conclusions respecting the agency most concerned in producing them."

He does not, of course, refer here to those morbid tastes and tendencies which arise during sexual evolution at puberty, and which ordinarily pass away when the process is accomplished.

Referring to cases of great excitement, Dr. Ray observes that when the patient's attention can be arrested, and he replies coherently, the prognosis as to living through the attack is much more favorable than when he is abstracted from all outward things, and absorbed in a chaotic jumble of ideas. This jumble "is very common, almost universal, in fact, in that form of disease now so frequent in our hospitals, passing under the name of maniacal exhaustion, or typhomania, or meningitis, or Bell's disease."

In Dr. Ray's experience, depression is a less favorable symptom than excitement.

Contrary to the experience of Dr. Stewart at the Crichton Institution, he considers that, other things being equal, "patients with good intellectual endowments, recover in larger proportion than those less happily constituted"—the greater the mental energy, the greater the recuperative power of the Mind.

In concluding the Section on Statistics we may state that the important Report of the Committee of the Medico-Psychological Association on Asylum Statistics, the tables contained in which have been largely adopted, will be found in the 'Journal of Mental Science,' 1865, p. 402.

CHAPTER III.

OF THE VARIOUS FORMS OF INSANITY.

Preliminary Observations.

Before entering upon the study of the various forms of Mental Disorder and Defect, the student is strongly recommended—

I. To have clearly before him the Physiology of the Nervous System in general, and of the Encephalon in particular, as comprising the centres of Sensation, Motion, and the Intellectual, Emotional and Volitional powers; combining with this the important truth that the brain, as well as the spinal cord, is susceptible to reflex action.

If the student, in addition to reading the chapter on Pathology in this work, takes Carpenter's 'Human Physiology,' whether the most recent edition or that of 1853, in which the present generally received Cerebral Physiology was laid down in a very lucid manner, he will find a useful physiological basis for the study of Insanity. In the first edition of the present work we referred to the physiology of the nervous centres as the foundation of one classification of the various degrees of Idiocy, and it must also, along with other sources of knowledge bearing upon the seat and causes of Insanity, be constantly kept in view in the study of acquired or consecutive mental disorder.

When the first edition of this work was published (1858) the doctrines of the functions of the encephalic centres were substantially the same as at the present time.

Then, as now, (1) the grey substance of the Cerebral Hemispheres was held to be the seat of the Mental Faculties, of those states called Ideational,* Volitional, and also Emotional as regards at least one element of this compound state.

* An adjective brought into use by Dr. Carpenter twenty years ago, founded on Mr. J. Mill's term Ideation, introduced by him to distinguish this state from

Then, as now, (2) certain collections of grey matter at the base of the brain were called Sensory Ganglia, being regarded as the centres of Sensation, special and general; while (3) other contiguous bodies were called Motor Ganglia—they being considered the centres of Motion.

Further, at that time no less than at the present, (4) the action of the Cerebrum or Hemispheric Ganglia, independently of the Will, with or without consciousness, was recognised, the resulting movements being designated cerebral reflex action by Laycock, and ideo-motor by Carpenter; simple automatic activity of the hemispheres, without the individual's consciousness, constituting the "unconscious cerebration" of the latter physiologist; while (5) those which proceed from the reflex action of the Sensory Ganglia were termed *sensori-motor*, the acts in both instances being analogous to (6) those manifested by the *excito-motor* actions of the spinal cord. Lastly, it may be said that then, as now, most physiologists believed (7) the Sympathetic System to be the seat of the Organic Functions, and to be engaged in the contraction and dilatation of blood-vessels, although wide differences of opinion existed regarding the *centre* of this system and its own proper filaments, as distinguished from the compound nerve-fibres of which it is evidently composed; and, indeed, it may even now be said, notwithstanding the valuable researches of Bernard and Brown-Séquard, that the part played by the rival cerebro-spinal and sympathetic systems, respectively, remains a vexed question.

II. To adopt as a guide some system of classification of the mental powers in health; for as the mental faculties are functions of the Cerebral Hemispheres, they must be studied as manifested in health, and hence Psychology, in its general outlines, must be mastered.

In opposing, as we have always done, the pursuit of Metaphysics in connection with Insanity apart from the study of cerebral physiology, as barren and unprofitable, we do not undervalue the importance of clearly recognising the manifestations of a healthy

Sensation. The term Volitional was introduced by the late Dr. Symonds. Proofs of the statements made in the text will be found in the last edition of Carpenter's 'Human Physiology,' and any standard Text-Book of the present day. The extension of the doctrine of the reflex action of the cord to the brain by Laycock has been of great service to Medical Psychology.

mind and distinguishing them, as far as practicable, according to their characteristic features. Otherwise, how is it possible for us to compare healthy and unhealthy states? How can we speak of a morbid condition of the emotions, if we do not form some previous idea of what a healthy emotion is? Of defective intellect if we attach no definite notion to what the Intellect is in its ordinary manifestations? Or, again, how can we comprehend the departure from the healthy working of the laws of mental action unless we understand what these laws are?

Metaphysicians have very generally recognised the two-fold division of the mental powers into the Intellectual and the Affective. Plato tells us that he distinguishes two principal faculties—that of *Feeling* and that of *Thinking*. "To feel, is to be affected by an external impression; to think, is to operate upon our ideas." Among modern metaphysical writers this distinction has no less been admitted and enforced. Thus, Reid's analysis of the mental faculties comprised two great divisions, the *Understanding* and the *Will*, in which latter he included the appetites, passions, and affections. And Stewart, although he added a third class of faculties (those which belong to man as a member of a political body), did not the less admit the foregoing distinction. Dr. Thomas Brown, again, divided the internal affections of the mind into two orders—"intellectual states of the mind, and the emotions." And his editor, Dr. Welsh, truly observes, that "Intellectual states and emotions are felt by us as generically different, and must always thus be felt by us." In this division Payne fully concurs and justly remarks, that "our emotions differ so manifestly from our intellectual states of mind by that peculiar vividness of feeling which every one understands, though it may be impossible to embody it in any verbal definition, that it is not a little singular that one should be confounded with the other by any who have simply *remembered* and *compared;* and have also *loved* or *hated, desired* or *feared.*"

The further subdivision of the emotions into the higher sentiments, and the propensities, is to some extent insisted upon by the Scotch metaphysicians. Mr. Morell, in his 'Speculative Philosophy of Europe,' more distinctly recognises a threefold division of the powers of the human mind. Thus, in combating the phrenologists, whose triple division is well known, he observes, "We did not require any phrenological aid to convince us that

the *animal passions*, the *moral feelings*, and the *intellect*, present three different classes of phenomena, which cannot be perfectly resolved into each other." Lewes, in his 'Biographical History of Philosophy,' observes that "the subdivision of the affective faculties into propensities and sentiments" has passed into general acceptance. By Fichte, the Intelligence, the Feelings, and the Will, were regarded as essentially distinct. And Bain, in his excellent work on the 'Senses and Intellect,' concludes that the most convenient, as well as the most truthful division, is into "the Intellect, Emotion, and Volition." Dr. Copland adopts, as the most practically useful classification of the mind—the Intellectual Powers; the Moral Affections; and the Instinctive Desires and Feelings, or "those strong and immediate incentives to action in the lower animals, which are controlled by reason in man."

Whether the student adopts a division of the mental functions into the Intellect, the Emotions, and the Will, or into the Intellect, the Feelings (including the Moral Sentiments), and the Propensities, otherwise called Appetites, Desires, or Instincts, he will possess something like a classification of mental symptoms, which will prove useful to him as a groundwork for the study of Insanity. If he enter upon this study entirely ignorant of mental science, he may be an anatomist, but he cannot be a cerebral physiologist. These functions, disordered, constitute the symptoms comprised under Insanity—the presence or occurrence of which is the occasion of the whole inquiry—the indications during life of the disorder of the functions, and, therefore, of the organ upon which they depend for healthy action. When the latter of the above-mentioned classifications of mind is adopted, the position the Will occupies will be this:—A certain state of the mind, whether as a primary feeling or a recollected feeling exciting a desire, determines voluntary action — actuation — conduct. "Volition," says Bain, "involves Feeling and something more; that something being *action* or the putting forth of power to some end." While distinguishing the Will from the Intellect and Emotions, Bain refers "the most simple and primitive volitions to the same class as the Appetites and Instincts." He regards the ends of voluntary action as "identical with our various emotions." With him, volition expresses all human action, so far as it is governed by motives. "Desire," he observes, "is a form or

aspect of the Will." When action takes place without any antecedent desire, it is usually of an involuntary, reflex character, although Bain contends that such an action as (for example) withdrawing the hand from a painful scald, is an example of pure volition.

Under Intellect are included Memory, Imagination, Reason, Judgment. Ideas are formed from the perceptions of the objects of the external world. Object-consciousness and Subject-consciousness are so closely united that it is difficult to separate them—as difficult as to separate Sensation and Ideation. Sensorial Perception passes imperceptibly into Intellectual Perception.* The importance of testing the condition of these faculties in a case of alleged Insanity is obvious.

The following grouping of the Emotions will prove an aid to the medical psychologist in comparing healthy and morbid emotional states.

Joy and its various forms and synonyms—Contentment, Cheerfulness, Mirthfulness, and the intenser states of Rapture and Ecstasy. Opposed to Grief or Sorrow, and their synonyms—Sadness, Affliction, Distress, Discontent, Melancholy.

Hope, the antithesis of Despair.

Self-esteem, culminating in Pride. The reverse of Humility, Modesty, Self-abasement, and Remorse.

Love of Approbation or Vanity, though a form of self-esteem, has very different characters, and may even degenerate into the opposite of self-esteem—Cringing.

Courage, sense of Self-possession or Confidence. The opposite of Fear, Fright, Horror, with the minor form of Anxiety. When epidemic, Fear assumes the Panic form. Allied to Suspicion.

Calmness: the reverse of Anger and its aggravated phases of Rage, Fury, Wrath, or what is commonly understood as Passion, leading to Scorn and Contempt.

Love, leading to Veneration, Adoration, and Reverence. Opposed to Hate, and Revenge.

Benevolence, Compassion, Pity. The antithesis of Malevolence and Misanthropy.

For the laws of mental association, suggestion and repro-

* On this subject the writer may be allowed to refer the reader to his work on the 'Influence of the Mind upon the Body,' pp. 27, 49.

duction, usually comprised under the four heads of Contiguity, Similarity, Compound Association, and Constructive Association, the reader is referred to Bain's work 'The Senses and the Intellect.'

III. To take a general view of Disorders of the Nervous System, both from a symptomatological and pathological standpoint, in order that the student may see them as parts, which they really are, of a great whole.

Thus, he may commence with Disorders of Sensation, not involving Insanity, and examine them in their various forms, Anæsthesia, Pseudæsthesia, and Hyperæsthesia, including morbid action of the special senses.

Then he may take disorders of Motion, as manifested in ordinary Paralysis, Duchenne's Progressive Loco-motor Ataxy, Tremors, and Spasms.

Further, he must not overlook those disorders which result from the morbid action of the nervous system upon Nutrition and Secretion, in addition to those marked by sensory and motor phenomena.

IV. Lastly, the student and alienist physician will find it essential to employ, in taking notes of cases, some definite form. In general, our practical knowledge of the characters of mental disorder must, like those of other diseases, be derived from two grand sources—the subjective and the objective. The former is exhibited in what insane persons tell us of themselves in their conversation and autobiographies, and is highly instructive; the latter includes the phenomena observed by ourselves as spectators of the disease. Much information may be obtained by subjecting the patient to processes of inquiry, by way of investigation and experiment calculated to test his actual mental condition, not only in regard to what he *does* manifest, but also in regard to what he *can* manifest. This latter mode of determining the patient's condition we are constantly resorting to, almost unconsciously; but it is one which M. Falret has laid especial stress upon, and is, doubtless, one which admits of, and deserves much more systematic cultivation than it has hitherto received. From all these various sources, therefore, we must derive our information of the different forms which mental disorders assume; by a careful observation of bodily symptoms; by eliciting the actual condition of the mental powers of the patient; by systematic tests

(percussing the patient, as Guislain would say); and by ascertaining his sensations.

In examining a patient's bodily and mental state, help may be obtained from the sphygmograph, ophthalmoscope, æsthesiometer, &c. The following Form was drawn up by the Committee of the Medico-Psychological Association in 1869, as adapted for a Case Book :—

CASE BOOK.

NAME — ADMITTED
AGE AND SEX — STATE AS TO MARRIAGE — EDUCATION
WHERE FROM — OCCUPATION — RELIGION

History.

CAUSATION: Previous attacks; Hered. history; Predisposing; Exciting — Where treated; Disposition and habits in health

DURATION OF DISEASE

FIRST SYMPTOMS: Mental; Bodily

RECENT SYMPTOMS: Mental; Bodily; Suicidal — Dangerous

Other facts

State on Admission.

MIND: Exaltation; Depression; Excitement; Enfeeblement; Memory; Coherence; Can answer questions ?; Delusions; Other abnormalities

BODY: Appearance; Colour of hair — Colour of eyes; Muscularity — Fatness; Nervous System; Reflex action — Pupils; Special Senses — Retina; Lungs; Heart — Pulse; Other organs; Tongue — Appetite; Urine, Sp. gr. — Urinary deposits; Menstruation — Temperature; Height — Weight

NAME OF DISEASE — GENERAL BODILY STATE

DATE	Temperature		Pulse		Weight	*Progress of Case.*
	Morn.	Evg.	Morn.	Evg.		

Memoranda to be put in beginning of Case Book.

HISTORY.

Previous Attacks.	Number, character of each.
Hereditary History.	Age of parents, relationship of parents or grandparents, health of same, family diseases or peculiarities—consumption, epilepsy, drunkenness.
Predisposing Causes.	Drunkenness, overwork, character of vocation or habits. Food, tobacco, tea, infantile diseases, adult diseases. Catamenial irregularities, marriage, children, difficult labours, miscarriages, lactation, &c.
Exciting & Proximate Causes.	Diseases of brain, emotions, blows on the head, drinking bouts, fever, poisons, over-sexual excitement, child-birth.

STATE ON ADMISSION MORE FULLY AND SYSTEMATICALLY ARRANGED.

A.—Bodily Condition.	*a*, Height. *b*, Weight. *c*, Temperature. *d*, Colour of hair (baldness). *e*, Muscularity. *f*, Fatness. *g*, Expression of face and general appearance. *h*, Any special injuries or wounds to be noted.
B.—Vegetative Functions.	*a*, Digestive—Tongue, stomach, appetite, condition of bowels. *b*, Dermic—Condition as to moistness, eruptions, and other abnormalities. *c*, Circulatory—Pulse, cardiac murmurs, flushing of face, or inject. of conjunctiva. *d*, Respiratory—State of lungs, breath, rapidity of respiration. *e*, Glandular—Exam. of urine, state of liver, spleen, thyroid, &c.
C.—Reproductive Functions.	*a*, Abnorm. of penis or testes in men—masturbation, syphilis, &c. *b*, In women—catamenia, discharges, syphilis, pregnancy, nursing, &c.

D.—Nervous System.

a, Paralysis, epilepsy, catalepsy, hysteria, and other abnormalities unconnected with the special senses or mental functions.

b, Special senses—

1.—Sight—*a*, Colour of iris.
b, Shape and size of pupils.
c, Condition of retina.
d, Vision.
e, Knowledge of colour.
f, Hallucinations.
g, Illusions.

2.—Hearing—*a*, External ear.
b, Deafness.
c, Hallucinations.
d, Illusions.

3.—Smell—*a*, Any abnormality of nose.
b, Sense of smell.
c, Hallucinations.
d, Illusions.

4.—Taste—*a*, Sense of.
b, Hallucinations.
c, Illusions.

5.—Touch and nervous sensibility—
a, Sense of pain.
b, Reflex action.
c, Hyperæsthesia.
d, Illusion and hallucinations, including those of internal organs.

E.—Mental Symptoms, *unconnected with the special senses.*

a, Apparent consciousness.
b, Identity.
c, Attention.
d, Coherence of language.
e, Memory—*a*, for recent events; *b*, for past ditto.
f, Exaltation or depression of spirits.
g, Excitement of manner.
h, Habits and propensities (filthy, dangerous, suicidal, destructive, indecent, &c.).
i, As to sleep.
j, Delusions—not being hallucinations or illusions.
k, Other abnormalities.

SECT. I.—Idiocy, Imbecility, and Cretinism.

We now proceed with Idiocy—a condition of defective development—(ἰδιος, *privatus*), in which the subjective symptoms of the patient are ascertainable in only a very limited degree.

Synonyms.—Ἰδιώτης* (Gr.), *Idiotie* (Fr.); *Idiotismò* (Ital.); *Blödsinn* and *Dumheit* (Ger.). Vogel, Sauvages, and others, speak of Idiocy under the Latin terms, *fatuitas, imbecillitas, amentia.*

Definition.—Esquirol was the first medical writer who very clearly defined the term, and, unlike Pinel, restricted it to a congenital defect. "Idiocy," he observes, "is not a disease, but a condition in which the intellectual faculties are never manifested; or have never been developed sufficiently to enable the idiot to acquire such an amount of knowledge as persons of his own age, and placed in similar circumstances with himself, are capable of receiving. Idiocy commences with life, or at that age which precedes the development of the intellectual and affective faculties, which are from the first, what they are doomed to be during the whole period of existence." Subsequently, he says, "Dementia and Idiocy differ essentially; otherwise, the principles of every classification are illusory. . . . A man in a state of Dementia is deprived of advantages which he formerly enjoyed. He was a rich man, who has become poor. The idiot, on the contrary, has always been in a state of want and misery."

This is the definition of Idiocy usually adopted. Happily, however, the education of this unfortunate class has, in modern times, so far modified its correctness, that it would no longer be right to speak of the faculties of the idiot being doomed to remain stationary, or to say (as Esquirol proceeds to do), "the condition of a man in a state of Dementia may change—that of the idiot is ever the same." We shall only, therefore, adopt Esquirol's description, so far as it represents Idiocy as a congenital deficiency of the mental powers.

* Although some derive idiot from ἰδιος, in the sense of being deprived of something, others, with more reason, derive it from a private man, as distinguished from one holding office, which an idiot mind could not do. Not to be able to enter public life was, with a Greek, synonymous with mental weakness.

Lord Coke's definition is substantially the same as Esquirol's; "one who from his nativity, by a perpetual infirmity, is *non compos mentis*."

Another legal definition of the word is contained in the following:—"He that shall be said to be a sot and idiot from his birth, is such a person who cannot count or number twenty pence, nor tell who was his father or mother, nor how old he is, so as it may appear that he hath no understanding or reason what shall be for his profit, or what for his loss; but, if he have sufficient understanding to know and understand his letters, and to read by teaching or information, then it seems he is not an idiot."*

Symptoms and Classification.—So much for the definition of Idiocy. We will now consider its characters. These vary according to the degree in which the cerebro-spinal system is involved. In the lowest forms of Idiocy, the functions of organic or *vegetable* life are ill performed; the idiot is below the plant; nutrition is most imperfect, and the power of reproduction null. He would perish but for the assistance of others.

The functions of *animal* life are likewise, to a greater or less extent, impaired; he may be scarcely alive to external impressions, or possess the power of executing spontaneous acts; in the lowest type, he may be blind, deaf, and dumb; the dejections are involuntary; he is, indeed, nothing more than "a living, dead man." "La dégradation des facultés intellectuelles," says Guislain, "atteint un degré qui fait descendre l'homme au-dessous de l'animal, qui le met même plus bas que les plantes, vu que toutes les fonctions sont tellement réduites que, sans l'assistance d'une autre personne, certains idiots seraient dans l'impossibilité de pourvoir à leur nourriture."

The degraded condition of the idiot is very clearly displayed in his vacant stare, in the thick everted lips, the slavering mouth, the irregular and decayed teeth;† the gums often swollen, the frequent strabismus, the ill-formed, generally large ears, and the ab-

* 1 Fitzherbert, 'Natura Brevium,' 583, ed. 1652 (Shelford).

† Mr. Hutchinson, whose laborious investigations have established the existence of a very important relation between the character of the teeth and hereditary syphilis, examined, in company with the writer, the teeth of the idiots at the Earlswood Asylum, but did not find the characters referred to, in any considerable number of cases.

sence or defect of one or more of the senses—sight, hearing, speech, taste, or smell. His staggering walk is also very striking; yet he seems as if he must be in motion, if he is on his feet; and, even if seated, he often has a difficulty in balancing himself. There is a general want of symmetry; the limbs are frequently contracted or paralysed; the fingers are long and slender; the grasp of the hand feeble or powerless, while the extremities are often cold and bluish from imperfect circulation. Psychologically, we may regard the idiot, with M. Séguin, as badly served by imperfect organs (mal servi par des organes imparfaits); the instincts limited, but imperious; sensation and reflex action taking the place of attention, comparison, judgment, memory, foresight, and will; "in a word, differing from every one else, in that he wants that synergetic action of the faculties, and that spontaneity, from which springs free moral agency."

Esquirol based his division of idiots upon the power of speech they possess. In the *first* degree of idiocy, properly so called, the idiot, according to him, uses merely words and short phrases; idiots of the *second* degree, articulate only monosyllables or certain cries; finally, in the *third* degree of idiocy, there is neither speech nor phrases, words nor monosyllables. Doubtless these divisions are mainly true to nature and practically useful; it seems, however, more in accordance with our present knowledge of the nervous centres, to regard the various stages of Idiocy, according to the degree in which the reflex and volitional functions are manifested; and, occasionally, we meet with idiots who can talk, but who, in other respects, belong to a very low type. The parrot can be taught to articulate, but in intelligence is far below the elephant, which cannot.

We might, from this point of view, speak of three classes of idiots.

First, those who exhibit nothing beyond the reflex movements known as the excito-motor.

Secondly, those whose reflex acts are consensual or sensori-motor, including those of an ideo-motor and emotional character.

Thirdly, those who manifest volition—whose ideas produce some intellectual operations, and consequent will.

Dr. Ireland, Medical Superintendent of the Institution for Imbecile Children at Larbert, near Falkirk, while not rejecting Esquirol's classification, has proposed an additional one, founded

upon bodily states or causes which we shall shortly describe in detail.

As an illustration of the first class, we may refer to a very interesting case mentioned by Dr. Carpenter, in his 'Human Physiology' (4th edit., p. 360), on the authority of the late Mr. Wallis, of Hull. Although reared to the age of ten years, this idiot never, from the time of his birth, exhibited any distinct indication of consciousness; there was no apparent malformation of the brain, yet no movements were ever witnessed which seemed to proceed from any higher centre than the medulla oblongata. Food had to be carried back into the pharynx in order to be grasped by the constrictors.* An idiot boy at the Asylum for the West Riding of Yorkshire, aged twelve, swallowed his food without mastication. It returned from the stomach, however, was chewed, and reswallowed.

An example of a very low form of idiocy has been given by Pinel, in his 'Traité Médico-philosophique sur l'Aliénation Mentale,' but it is, in some respects, of a higher grade than the preceding:

"One of the most singular and extraordinary cases which has ever been observed," he says, "is that of a young female idiot, eleven years old, whose skull I have figured, and who, in the form of her head, her tastes, her mode of living, seemed to approach to the instincts of a sheep. For the two months and a half she was at the Salpêtrière, she exhibited an especial repugnance to meat, and ate, with avidity, vegetable substances, such as peas, apples, salad and bread; she only drank water, and manifested, in her way, a lively appreciation of all the care which the attendant took of her. These demonstrations of feeling were confined to the expression of these two words *bé, ma tante;* for she could not utter any other words, and appeared entirely silent, solely from wanting ideas; otherwise her tongue seemed to possess all its mobility; she was accustomed to exercise alternate movements of extension and flexion of the head, in supporting it (like a sheep) against the breast of her nurse, to testify her gratitude. Her back, loins, and shoulders were covered with long flexible hairs, from one to two inches in length, and which resembled wool in texture. In making efforts to get out of the bath, she would repeat, in an acute tone, *bé, bé, bé.* She would not sit, but lay on the ground, le corps roulé, et étendu sur la terre, à la manière des brebis."

It is observable that many idiots whose mental power is extremely deficient, have excelled in musical talents. In the instance of Quénau, an idiot at the Salpêtrière, it was necessary to dress her; when she attempted to speak, she uttered a hoarse cry, or a sort of articulate, jerking grunt, which she continued till she was

* We understand this idiot is dead, without any autopsy having been made.

understood. She comprehended, by means of a gesture, what was intended to be communicated to her, provided it had reference to nothing beyond the most common wants of life. Yet this idiot was a musician.

Dr. Peacock has recorded in the Pathological Society's 'Reports,' for 1858-9, the case of a boy, eleven years of age, which possesses many points of interest.

He was born at the full period, but his mother, in the fifth month of her pregnancy, received a severe shock, after which her abdomen did not increase in size. Her parents were intelligent, and no member of the family was known to have been insane or imbecile. He was blind, micro-cephalous (the anterior fontanelle closed at birth); had convulsions during dentition; could not articulate sounds, or stand unassisted; the left arm was paralysed when about five. He distinguished his parents; his sense of hearing was acute; he could only swallow his food when cut into small pieces; and passed his evacuations in bed. The thighs were flexed on the abdomen, which was tumid; sternum prominent; chin resting on the breast; cyanosis from birth, not from malformation of the heart but from imperfectly expanded lungs. The brain after death was found to weigh 21 oz. or 3½ dr. avoirdupois, being, as Dr. Peacock shows, less than half that of the average, and little more than half that of the smallest healthy brain, at eleven years of age. The cerebrum weighed 17 oz. 2½ dr., and the cerebellum (with the pons varolli and medulla oblongata) 4 oz. 1¼ dr. The lobes of the cerebellum, when *in sitû*, projected considerably beyond the cerebrum. The cerebral convolutions were very small; the sulci shallow; the ventricles greatly dilated with serum; the right hemisphere more atrophied than the left. The *falx cerebri* was entirely deficient in its anterior portion. Specific gravity of brain 1030; that of a healthy boy, aged eleven, was found by Dr. Peacock to be 1039·6. Without its nerves the spinal cord weighed only 7 drs.

An idiotic female who died at the Retreat, above seventy years of age, afforded an example of the third class; her ideas produced some intellectual operations and consequent will.

The almost lady-like propriety which characterised her, was remarkable, and was, in great measure, due to the excessive pains taken with her when young. Some would call this a case of congenital imbecility rather than idiocy; but she could never be taught to read or write. She was full of delusions about children; she imagined almost every day that she was in labour; and was generally actively engaged in chiding the children which, in imagination, she already possessed.

She died of ovarian disease. The brain was very small, only weighing 22¾ oz. (avoirdupois); the cerebrum, 19½; and the cerebellum (with pons varolii and medulla oblongata) 3¼. The weight of the brain, in the new-born infant, is stated by Tiedemann to be from 10 to 13¼ oz.; the smallest brain recorded by Solly weighed 19¾ (avoirdupois); and the next smallest, 22½ oz. And if we take the average weight of the female brain at 44 oz., and deduct 1 oz. for each decennial period after fifty years of age, we have, in the case at the Retreat, a brain about 20 oz. below the average weight, and 41¼ oz. below that of Cuvier's, which weighed 64 oz. avoirdupois. In this case, the membranes, with the exception of slight opacity of the arachnoid,

were healthy, and not adherent; there was a little fluid upon and beneath the arachnoid; the vessels generally were empty. The thickness of the grey matter appeared to be fairly proportionate to the white; the convolutions were small, and the sulci shallow especially superiorly; there was an unusually wide and deep division between the posterior and middle lobes; the corpora striata and optic thalami small, but healthy; the ventricles normal, fluid slight in quautity; the pineal gland large and sacculated, like a hollow grape. The commissures and the septum lucidum were entire. The following are the measurements of the head:

Circumference	18·87 in.
From the root of the nose to the spine of the occiput...	11·10 „
Antero-posterior diameter	6·62 „
Transverse „	4·75 „
Total	41·34 „

These contrast very strongly with the same measurements of Etty, the painter, a cast of whose noble head is in our possession:

Circumference	24·75 in.
From the root of the nose to the spine of the occiput...	16·05 „
Antero-posterior diameter	8·75 „
Transverse „	6·37 „
Total	55·92 „

In the instance of the sheep-like idiot recorded by Pinel, the antero-posterior diameter, was 5·11 inches; and the transverse 3·58; the circumference is not given. The measurements of Quénau's head were as follow:—

Circumference	20·07 in.
From the root of the nose to the spine of the occiput...	11·33 „
Antero-posterior diameter	6.92 „
Transverse „	5·63 „
Total	43·95 „

The corresponding measurements of the famous "Aztec" boy, whom we can only regard as an idiot, were as follow:

Circumference	13·25 in.
From the root of the nose to the spine of the occiput...	7·75 „
Antero-posterior diameter	4·05 „
Transverse „	3·75 „
Total	28·80 „

It must not be concluded, from these examples of microcephalous idiots, that a small head is a necessary accompaniment of

Idiocy. On the contrary, many idiots have large heads, leaving out of the question instances of hydrocephalus. Dr. Parchappe has stated, as the result of very careful inquiry, that if there exists a general relation between the volume of the brain and the degree of intelligence, "facts are wanting to deduce rigorously from this relation the different degrees of intellectual and moral capacity." Of 100 idiotic heads examined by M. Belhomme, 84 presented more or less decided malformations of the forehead, occiput, and lateral portions. Twenty-five per cent. had a well-marked want of symmetry. On bringing together a hundred well-proportioned heads, he did not find one true idiot among the number. Gallice, after making a large number of observations, came to the conclusion that the more *intelligent* the idiot is, the larger will be his head; but that this results from a greater development of the *occiput*. And this certainly accords with what Leuret had previously recorded, that the occiput in idiots is remarkably small. Desmaisons, in his 'Memoir on the Form of the Head in Idiots,' concludes that idiocy sometimes exists without any malformation; that it is impossible to fix upon any which is peculiar to idiocy, but that flattening of the posterior portion of the head is as common as that of the forehead. Dr. Zillner, however, has more recently measured the *sutures* of the various cranial bones in idiots, and states that in their skulls the frontal bone is decidedly smaller than in those of non-idiotic persons. Gall laid it down as an axiom, that idiocy must exist when the head is not more than 13 inches in circumference; and he says that the measurement of heads in those cases which lie between complete Idiocy and those admitting of the ordinary exercise of the intellectual faculties, is comprehended between the following limits:—The circumference varies from 14 to 17 inches; and the arc between the root of the nose and the occipital foramen measures not more than 12. These dimensions, he adds, are accompanied with a greater or less degree of stupidity or fatuity, inability (more or less complete) of fixing the attention on a determinate object, vague sentiments, an irregular train of ideas, speech consisting of broken phrases, &c., and blind and irregular instincts ('Functions of the Brain,' vol. ii, p. 214).

When called upon to decide whether a child is idiotic, it is well to have the following among other points of inquiry prominently in view:—State of sensation, general and special (sight, hearing,

smell, taste); the general aspect as regards intelligence; the form of the head, whether microcephalic or hydrocephalic, or unsymmetrical; the condition of the fontanelles; the ability to raise or support the head; the shape of the ears; the presence of strabismus, and whether the eyes follow an object held before them, or are affected by light; whether capable of being amused; whether the hand can grasp your finger; whether the limbs, generally, have the amount of power usual at the age of the child examined; whether (if of sufficient age) it has begun to walk and talk like other children; and if too young to talk, the character of the vocal sounds should be particularly noticed.

Recurring now to Dr. Ireland's article ('Journal of Mental Science,' October, 1872), we proceed to give his classification and the substance of his observations.

1. Hydrocephalic Idiocy; 2. Eclampsic Idiocy; 3. Epileptic Idiocy; 4. Paralytic Idiocy; 5. Inflammatory Idiocy; 6. Traumatic Idiocy; 7. Microcephalic Idiocy; 8. Congenital Idiocy; 9. Cretinism; 10. Idiocy by deprivation, *i. e.* the loss of two or more senses.

1. In twelve *hydrocephalic* cases the size of the head, although large, did not exceed twenty-four inches in circumference. Occiput sometimes flattened. Palate, not vaulted, as already described in many cases of Congenital Idiocy. Dulness of touch and deafness not uncommon in this class. While hydrocephalus may be suspected when the head is very large, it does not follow, when the head is of normal size, or even small, that there has not been hydrocephalus in childhood. A case is mentioned in which hydrocephalus was not ascertained till at the *post-mortem*, when seven ounces of fluid were found in the lateral ventricles, and two ounces in the sac of the arachnoid.

Prof. Albers, of Bonn, says that mental obtuseness and paralysis indicate effusion in the former, and restlessness and mental derangement in the latter locality. Dr. Ireland states, as regards *prognosis*, that when the hydrocephalus is moderate and is stationary, there is considerable capacity for improvement. "Some have been taught to work, others to sew and read. The prognosis is graver when convulsions have supervened on the original malady," but the following case is recorded:

A patient had fits during teething, which returned when four years of age, who had the hydrocephalic head, and became deaf, but who nevertheless "has now been

taught a number of figurative signs, and also to spell on his fingers; and although he has the additional disadvantage of obscurity of sight, having dimness of the cornea resulting from ophthalmia, his progress has been as well marked as that of any pupil in the establishment. A few months ago I was introduced to the governess of a deaf and dumb school, who had a well-marked hydrocephalic head. She was quite deaf, but the nature of her duties is a sufficient proof that she had retained more than average mental vigour."

2. In this class, Idiocy succeeds to infantile convulsions, chiefly during dentition. That so many children have teething-fits who do not become idiotic, may be accounted for by regarding them as the exciting causes which develop a certain predisposition; or both convulsions and idiocy may be regarded as the results of a common morbid cause.

Prognosis unfavorable. The child, although motion and sensation (general and special) are uninjured, is capable of very little education.

Of thirteen cases studied, six were taught to work a little with their hands; eight were mutes; three articulated imperfectly. Of the remaining two who could speak, one girl could be much improved. She first had fits when six weeks old, and nearly died, but they never returned. She was fourteen when she entered the Larbert Institution (1870). Her progress in reading was slow, but in learning to work, rapid. Along with attainments in sewing, knitting, and household work, her general intelligence has greatly improved.

3. After quoting Dr. W. A. F. Browne's opinion that the prognosis in this class, that of Epileptic Idiots, is as favorable as in other classes of Idiocy, if not more so, Dr. Ireland says (and we think with reason) that, in his mind, "whatever may be the cause of the epilepsy, its association with Idiocy leads to the presumption that a lesion has been produced in the brain and spinal cord not likely ever to be effaced;" but he does not deny the possibility of the cure of epileptic cases. In his experience, however, while they generally present "a certain fallacious amount of intelligence, this intelligence does not appear to be much improved by training. If, during the intervals between their epileptic seizures, they learn anything, a new attack is apt to erase it from their memory; they are generally wild and intractable, and, indeed, seem to be on the boundary between Imbecility and Insanity."

4. Of six cases of Paralytic Idiocy coming under Dr. Ireland's notice—

One, a girl, æt. 9, was improving mentally, the paralysis, which was caused by a fall when three years old, remaining the same. The second, a girl, æt. 7, had fits

as well as paralysis (hemiplegia), which was getting rather worse, while the mind became brighter. The third was a boy, æt. 9, the palsy dating from the second year. Right arm and leg affected, both as regards motion and sensibility; nearly blind at the same time, but sight afterwards improved. Disposition tractable. The fourth case, a boy, æt. 8, was on admission deaf and partially paraplegic. Walk difficult; improved in general intelligence; learnt to copy striking peculiarities in other people's handwriting, and to sew and knit. Died of anasarca, the sequel of scarlet fever. The fifth case, æt. 9, a boy, very feeble, was stated to have been twice severely ill from threatened hydrocephalus, and to have had one side weak. Died of gastric fever. No progress observed during four months he was in the house. The sixth case, a boy, æt. 11; hemiplegia from eighth month; sensation as well as motion diminished; articulation deficient. Grasp of left hand slowly returning; learning to read and write; extremely willing to learn; progress very gratifying.

As to *prognosis*, Dr. Ireland's general conclusion is that such cases improve mentally rather than physically.

5. *Inflammatory Idiocy.*—Dr. Ireland says he has met with few cases of Idiocy which he could clearly trace to inflammation of the brain not due to external injury.

A boy, æt. 10, had brain fever with fits when three years of age. It is stated that he possesses all his senses, and normal sensibility, and is learning to read and write.

A girl, æt. 12, had brain fever, with sloughing of the internal ears, causing deafness, when eight years old. Although this was set down as the cause by the family, it was found she was always peculiar, and she had an imbecile uncle.

6. Under the head of Traumatic Idiocy are comprised cases due to injuries to the embryo child by attempts at abortion, and by damage done during parturition by contracted pelvis and the use of forceps. These may cause concussion, compression, hæmorrhage from the meninges, and destruction of the grey or white cerebral substance. "Sometimes the injury to the mental power is permanent, sometimes it disappears more or less slowly; in some cases a trifling injury to the mental power is permanent, sometimes it disappears more or less slowly; in some a trifling injury causes grave disorders; in others, what appears to be a great injury leaves no visible effects behind. Hereditary predisposition has, no doubt, much to do with this." As with teething-fits, so with injuries to the head; during parturition many are injured, but comparatively few become idiotic in consequence, and apparently for the same reason—the absence of constitutional predisposition.

The following case is given:

K. N—, æt. 13, head small, narrowing towards vertex. He was the first

child; mother sixteen years old at his birth. Born at full time, and delivered with forceps. The marks of forceps were still visible on right temple, where there was a spot destitute of hair. The infant could not suck for the first week. He had three fits a short time after birth, and a great many more when three months old. Has had no fits for three years. He began to walk at three years; can only speak a few words, but understands to a limited extent what is said to him; knows he can get something for money; use of hands deficient; good natured; apparently healthy. The mother, a healthy looking Irish woman, had five other children, all delivered by the forceps. They are all healthy, and said to be of average intelligence.

7. In regard to Microcephalic Idiocy we have already given several interesting illustrations, but may add the measurements of a smaller head than any given, with the exception of the Aztec's. The patient was in the Lancaster Institution, and the dimensions were obtained by Dr. Ireland.

Circumference	$14\frac{1}{8}$ in.
From root of nose to spine of occiput . . .	$7\frac{7}{8}$ „
From ear to ear	$9\frac{7}{8}$ „
„ middle of forehead	$4\frac{1}{4}$ „
„ middle of occiput	4 „

The child, æt. 8, was healthy and well made, but little for his age; teeth good; hands and feet small. "He was very quarrelsome and unmanageable, biting and kicking when angry. If his nurse pretended to cry when he struck her, he would appear sorry. She thought him the most intelligent child among eight idiots of about his own age. If the other children struck him, he would fly at them. He was imitative, but inclined to steal; when caught stealing he seemed ashamed and turned red."

Prognosis.—When at Earlswood, a few months ago, we saw a young woman whose head was the smallest in the establishment, but who was very quick and useful. Her powers, though, of course, exceedingly, limited were, so to speak, healthy so far as they went. This accords with Dr. Ireland's observation, that "such cases improve under training, and have more physical and moral energy than is common with idiots of other classes."

In a case cited from Dr. Wilbur's Report of the New York State Idiot Asylum, although the idiot's head (that of a boy, æt. 12) only measured $13\frac{1}{4}$ inches in circumference, and he was uncleanly in his habits, "had but little idea of language, was passionate, and could not speak at all," yet after being under instruction a year, it is reported, "he knows the name of all objects in the schoolroom and about the house, and also the names of all the pupils in school; he recognises a great number of pictures of objects; he is beginning to speak, and has already learned several printed words as the representatives of familiar objects; he is now making sensible progress every day."

8. *Congenital Idiocy.*—In these idiots hereditary predisposition is more clearly traced than in others. The following are the main characters of this class enumerated by Dr. Ireland:—Often dwarfish; deformities common, especially a highly vaulted palate; teeth irregularly placed and subject to decay; deficient growth of finger-nails, clubbed fingers; clubbed feet; squinting and rolling of the eyes. Cyanosis; deficient cardiac valves; lobulated form of kidneys.

Prognosis.—Under this class, the worst cases as well as those admitting of education occur. Therefore, the usual tests of Idiocy, as to speech, intelligence, knowledge of number, power of attention, capacity for grasping, ability to fix the eye, &c., must be employed here. "The power of muscular motion, as shown in walking over the floor or across a plank, or in better cases of carrying a vessel full of water, is a surer test than that of tactile sensibility. Congenital idiots of the lower type are often very deficient in these respects. It is rare that cases where the circulation remains torpid, as indicated by feeble pulse, cold feet or hands, or other signs, make much progress in education and training. On the contrary, the prognosis is good where the child is active and vigorous, noticing things, where he has begun to speak before six or seven, and has got a firm grasp and a normal amount of tactile sensibility, and the faculty of attention capable of being sustained. Most idiots seem to take up the idea of number with great difficulty; but this test is more useful in diagnosis than prognosis."

9. Idiocy by deprivation, *i. e.* by being deprived of two or more of the principal senses. Dr. Ireland refers in illustration to the cases of James Mitchell, born deaf and blind, whose eyesight was restored by an operation; Laura Bridgman, blind and deaf, smell and taste being also much impaired; and Meystre, blind and deaf. "Deficiency of sight and hearing is not uncommon with idiots, and forms a very serious bar to instruction. In one case, already referred to, a boy who was sinking into an extremely obtuse condition, from having become deaf and dim of sight, had his mental powers and faculty of expression aroused by being taught figurative signs and to spell on his fingers."

Dr. W. A. F. Browne recorded in the 'Journal of Mental Science,' October, 1862, the particulars of a family of idiots. The

instance is so remarkable that we give the Illustration which accompanied the description.

The family consisted of—

I. Agnes W—, æt. 71, affectionate, especially to Thomas; quiet, inoffensive, industrious, speaks indistinctly. First row, first on right.

II. James W—, æt. 69, affectionate, childish, confused, excitable, does nothing. Behind Agnes.

III. Helen W—, æt. 65, affectionate and attentive to brothers and sisters, tractable, willing and useful as a worker in scullery, neat in dress, speaks intelligibly. First row, second on left.

IV. David W—, æt. 56, indifferent to brothers and sisters, passionately fond of washing stockings and coarse articles and of assisting the female servants, will not work in garden. First row, second on right.

V. William W—, æt. 53, affectionate to brothers and sisters, will work in garden under gardener but will not wash, cannot speak intelligibly. Behind David and Helen.

VI. Thomas W—, æt. 51, affectionate to sisters, indifferent to brothers, quarrels with James, occasionally violent, displays much interest in changes in establishment, and worked in garden until he lost the use of his right hand. First row, first on left.

VII. Mungo W—, æt. 47, indifferent to brothers and sisters, sometimes speaks to James, solitary and taciturn, works laboriously in garden. Behind Thomas.

These had, besides, a brother who disappeared and was supposed to have been drowned in a quarry, another imbecile sister, still alive, and two brothers and one sister who were healthy.

Imbecility.—Some writers have restricted the use of this term to the loss of mental power supervening in infancy, others have applied it indifferently to a congenital and infantile condition, but all agree in employing the term to denote a minor degree of mental deficiency than idiocy.

When Imbecility is present from birth, the sensitive and intellectual faculties are somewhat developed; sensations, ideas, and memory, as well as the affections, passions, and even inclinations, exist, but only in a slight degree; such think, feel, and speak, and are capable of acquiring a certain amount of education. (Esquirol.)

Some imbeciles know those who are about them, are affectionate to their friends, but are often passionate, and are very likely to have a strong tendency to theft. They are equal to the performance of many of the ordinary duties of life, and are able to take care of themselves.

Others display considerable shrewdness, and are constantly indulging in jokes; they pass for half-witted people, whose droll

From a Photograph

E.Burgess lith.. W.West imp.

Portraits of Seven Idiotic Brothers & Sisters.

behaviour and ready repartees create amusement. From this class, the court-fools of antiquity and mediæval times were derived. Unfortunately, there are not a few imbeciles who are dangerous to society: they are sometimes prone to incendiary, and still more frequently to homicidal acts. This is the case even with true idiots; proving, in both cases, how completely distinct must be the structures which subserve the intellectual and the affective faculties; there being in the same person, and at the same time, an absence or depression of the former, and an excess or exaltation of the latter. We think Gall and his followers are quite justified in urging these facts in favour of a plurality of cerebral organs. He relates the case of an imbecile, who, after killing two of his brother's children, went to the father with an expression of delight, and told him what he had done. Again, instances are given by Esquirol and others, of the presence of considerable moral sensibility, in association with intellectual deficiency. Rush speaks of a man without a spark of intelligence who devoted his life to works of benevolence. This, however, is of much rarer occurrence than the absence of intellectual power coincidently with the excessive action of animal propensities.

Hoffbauer has divided mental weakness into various classes, according to the extent to which the mental faculties are impaired. Three of these, as having special reference to imbecility, may be referred to. In the *first*, the individual is incapable of forming a judgment on a new subject, however simple it may be. He can judge very well, however, regarding subjects which are familiar to him; his memory is, of course, very weak, although he observes a certain routine of occupation with scrupulous exactness. He is not accustomed to talk much to himself. He is liable to sudden paroxysms of anger.

The subject of the *second* degree is even less able to judge and act, in regard to his accustomed occupations. He is exceedingly confused, in regard to the place in which he is, and the person with whom he converses, and is very generally at fault in regard to his ideas of time.

In the *third* degree of Imbecility, there is more reason to apprehend danger from the individual affected with it; for he has delusions of the evil intentions of others, and is not only passionate, but suspicious and misanthropic. He frequently talks to himself. Thinking aloud, however, is no proof of imbecility.

Dr. Prichard inclines to the use of similar divisions, and of others still more refined, to assist the judicial questions which arise in connexion with Imbecility. We think, however, that a more detailed division than that to which we have referred, would only confuse the reader by its minute distinctions.

Cretinism is nearly allied to Idiocy, yet differs from it in some important particulars. In what these consist we shall shortly endeavour to determine.

First, as to the derivation of the word. Some, including Fodéré, have derived it from *chrétien,* in consequence of the popular notion that the cretin is especially blessed by Heaven; others refer the derivation to *cretina,* which signifies stupid or silly, apparently a more feasible explanation of the word; Esquirol suggested that the term originated in *cretine,* alluvial soil, believing that an alluvial region was among the causes of the malady.

Synonyms.—The terms applied to these wretched beings have, of course, varied in different countries. In Savoy they are called *crétins,* or *fous.* In some parts of France they go by the name of *cagots.* In the Vallais, again, cretins of the lowest class are called *tschengen,* those of a higher grade *trissel,* and those of the highest *gauch.* In Styria they are called *dotteln.* In Italy, *scmphiaggine.* In Piedmount, *foulitre,* &c.

Definition.—An arrested development of the nervous system and bodily organization generally, either before or after birth, due to a local cause, as the condition of the soil, water, air, &c., and marked by characters which distinguish it from a state of mere endemic Idiocy.

Distribution and Symptoms.—These different terms indicate at once that Cretinism is not confined to Switzerland, whence we hear most about it, but that it is endemic in many countries. More than this, it is sporadic, an occasional case being found presenting the character of genuine Cretinism more or less strongly marked.

One such case, in a very modified form, was admitted into the York Hospital, for branchocele. When asked how he was, his constant reply was "My belly aches, and my breast is sore," and it might have been supposed this was the extent of his vocabulary. A report of this case will be found in 'The Medical Times and Gazette,' Sept. 15th, 1855, a portion of which may be cited here:—"He is very short for his age (14), is of rather fair, but pale and earthy complexion, and of a quiet, apathetic expression of countenance. He is not destitute of intelligence, though very decidedly below par. He has been sent to school regularly, and has learnt to write fairly, but can

scarcely read at all. He answers questions in a slow hesitating manner, and can with difficulty be got to speak to strangers. The abdomen is large and tumid, but there are no indications of organic disease either in it or the chest. The thyroid gland, although now much reduced in size by treatment, is still enlarged, in all its proportions, to a degree quite perceptible to the eye. The arch of the palate is high and narrow, and the teeth have grown very irregularly. The muscles generally appear fairly developed, and feel firm to the touch. He can walk and run, but is not active. In regard to his history, it was ascertained that both parents were very short of stature; and although neither was so deficient in mind as to approach imbecility, yet both were peculiar in temper, and by no means of vigorous intellect. The father is still living, the mother died of phthisis with acute intestinal complication, about six years ago. Idiocy is not known to have ever shown itself in the family of either, nor is it certain that any relations have had goitre. Both parents were born in York, and have lived there all their lives; they were in no way related before marriage. All their children, four in number, are delicate and ailing." The eldest died under our care, of granular disease of the kidney. Although twenty years of age, any one would have supposed him to have been between ten and twelve. His height did not exceed four feet two inches. He was an exceedingly pale, cachectic, ill-conditioned boy. His expression, although not intelligent, did not present any striking indication of imbecility. There was no enlargement of the thyroid gland. The arch of the palate was decidedly high and narrow; the teeth bad, and very irregular. There was no hair on the pubes or in the axillæ. The testicles were atrophied. In regard to his mental condition, there was a general dulness about him; his replies to questions, which were very deliberate and in a weak voice, were generally monosyllabic. He was eight years old before he could talk, from which period he had everything to learn. He ceased to grow at seventeen years of age. It must be added to the above that the father is a miserly man, who appears to have cruelly treated and starved his children. The locality in which they lived was by no means healthy.

The autopsy exhibited a want of symmetry in the two halves of the cerebrum. The dura mater was adherent in the superior portion of the brain, and the subarachnoid tissue infiltrated with turbid serum. The skull was decidedly thin. With the exception of a soft condition of the optic thalami, the brain was healthy.

When recently at Earlswood, Dr. Grabham pointed out to the writer two particularly interesting idiots who resembled cretins. One squatting on the ground, whom we supposed from his size to be a child, proved to be above twenty years of age. He had been eleven years in the institution. His height was a little more than two feet and a half. He could not speak, but he could see and hear. When he got up from the floor he seized a chair for support. His expression was striking, and to those who have travelled in the cretinous districts of Switzerland, it would be recognised as belonging to that family. So of another of the inmates, a girl admitted about two years ago. She was nearly four feet in height. Her case was a congenital one, the cause assigned being fright to the mother during preg-

nancy. Her aspect resembled that of a cretin. She was a deaf-mute.*

Cretinism is said to be first mentioned in a will of the 15th century, in which the testator provides for the safe keeping of an innocent. Mention is made by Juvenal of goitre "in Alpibus."

Shakespeare, never at a loss for an illustration, has not overlooked goitre. He makes Gonzalo say—

> "Faith, sir, you need not fear: when we were boys,
> Who would believe that there were mountaineers,
> Dew-lapped like bulls, whose throats had hanging at them
> Wallets of flesh?——which now we find
> Each putter out on five for one, will bring us
> Good warrant of."

The Swiss cretins were spoken of by Felix Plater so far back as 1500.

In later times numerous writers have given descriptions of this unfortunate class; the first systematic treatise was by Fodéré, in the year 1792. He was followed by Michaëlis, Autenrieth, the Wenzels, and others.

Dr. Guggenbuhl, in 1841, established a hospital upon the Abendberg, in the canton of Berne, for the purpose of caring for, and endeavouring to educate, cretins.

* In a paper contributed by Dr. Figges to the Medico-Chirurgical Society (1871), on "Sporadic Cretinism occurring in England," these cases are described and lithographic illustrations given. Their interest consists mainly in the fact that while both present a strikingly cretinous appearance, not only is there no goitre but there does not appear to be any trace of a thyroid gland in either; they present, however, supra-clavicular swellings which Dr. Figges thinks is a constant feature in sporadic cretinism. Mr. Curling in 1850 read a paper at the Medico-Chirurgical Society on "Two cases of absence of the thyroid body, and symmetrical swellings of fat tissue at the sides of the neck connected with defective cerebral development." In both these cases a post-mortem examination was made and showed that the supra-clavicular swellings consisted of superficial collections of fat, without an investing envelope. Another case was reported by Dr. Down, to the Pathological Society, in 1869. Dr. Figges then associates atrophy of the thyroid gland and these fatty tumours with sporadic cretinism in contrast with the goitre which usually marks cretinism when it is endemic. He thinks there is a certain antagonism between goitre and cretinism, that is to say, the former when large may be a protection against the latter, and suggests that "cretinism is associated with an enormous bronchocele, only when the exciting cause is present in a very intense degree."

Mr. McClelland found in the cases he observed in India that the tumour does not always originate in the thyroid gland, but "may commence with a fulness of the base of the neck in one or both sides over the middle of the clavicle."

In 1850 appeared the Report of a Commission appointed by Charles Albert, the then King of Sardinia, to investigate the causes and nature of Cretinism, and to suggest means for the relief of so terrible a malady.

From the particulars collected and presented by this Commission in their Report, we are able to obtain much valuable information in regard to Cretinism.* We have ourselves also visited some of the districts in which Cretinism prevails, and can confirm the accuracy of this Report so far as our observation extended.

Much discrepancy exists in the statements of authors as to whether cretinism can be recognised at birth. The true state of the case, according to the article referred to, appears to be this: —that there is no pathognomonic sign by which it can be then diagnosed, but that a certain combination of symptoms may allow us to prognosticate, in childhood, the future development of Cretinism. In well-marked cases it is stated that, after the fifth or sixth month, the child presents the following symptoms:—the development of the body proceeds very slowly; the child, though weak, is remarkably stout, and appears swollen; the colour of the skin is sometimes dusky, sometimes yellow, sometimes natural; the head is large; the fontanelles widely separated, and sometimes all the sutures disjointed;† the expression is stupid; the appetite is voracious, and much time is passed in sleep. The belly is swollen; the extremities are generally attenuated; the neck is thick, without, however, being always goitrous; teething is not completed for many years, and is accompanied by an offensive salivation, and frequently by convulsions. Usually the child cannot stand before its sixth or seventh year, and it is then that it begins to articulate certain sounds, if not deaf from birth. The voice is hoarse and shrill, and words are spoken with difficulty. The development of Cretinism, strictly speaking, occurs about seven; but it is clear that all its main features were present long

* *Vide* article in the 'Annales Médico-Psychologiques,' April, 1850, by Brierre de Boismont.

† The 'Contributions to Midwifery and Diseases of Women and Children,' &c., by Drs. Noeggerath and A. Jacobi, contain an essay by the latter physician in which he endeavours to show the great importance of premature closure of the fontanelles and sutures of the infantile cranium, as a cause of cretinism and idiocy. This is quite consistent with the same mental condition being associated in other cases with non-closure of the cranial bones at the normal period, which he decides to be about thirteen months of age.

before. Dr. Morel calls from seven to eight the critical age for Cretinism. It is asserted that no instance is known of a child becoming a cretin after the seventh year, under the influence of local circumstances alone. Of 4888 cases in which the age at which the first symptoms appeared was ascertained, 4440 were between the time of birth and two years; 187 between two and five; 202 between five and twelve; 31 between twelve and twenty; 28 from twenty and upwards.

Although speaking of the differences of opinion as to whether or not Cretinism can be diagnosed at birth, we do not mean it to be inferred that there are no cases really congenital. On the contrary, the classification of Dr. Guggenbuhl recognises a congenital class. His second division includes those affected with rachitis; the third, those specially characterised by general atrophy; and the fourth, those cases complicated with hydrocephalus.

Three classes of cretins are generally spoken of by authors, according to the degree of defective development.

1st. Cretins; manifesting only vegetative functions, and deprived entirely of reproductive and intellectual faculties, including the power of speech.

2nd. Semi-cretins; possessing the power of reproduction, and some faculty of speech; intellectual faculties, limited to corporeal wants.

3rd. Cretinous; having intellectual faculties superior to the former, and able, in some degree, to apply to trade and other employments.

Of 6107 cases of Cretinism, classified by the Commission, 2165 belonged to the first, 3518 to the second, and only 424 to the third class.

Those of the second and third class have been called megalocéphales by M. Cerise, who measured their crania in 105 instances, and found them more capacious than those of the first class. There appears to be in a large number of cases a fronto-occipital contraction of the skulls of cretins (brachycephalic), while the sides of the head are prominent. Thus, in a hundred instances, it was found by Dr. Trombotto that the distance from the root of the nose to the occipital spine was less than over the head from ear to ear, by four centimètres.* The heads of some

* The English inch = 2·54 centimètres. Dr. Zillner's more recent measurements

cretins are in the form of a cone, the apex being at the junction of the sagittal and lambdoidal sutures.

The character of the face appears to remain almost unchanged from puberty to old age—that is to say, cretins are old men and women at fourteen. The eyes, in addition to their want of expression, are generally affected with strabismus, the zygomatic arch is very large, the mouth of remarkable size, and the lips thick, the lower one hanging down. The superior maxilla is prominent. The inferior maxilla is small, retreating, and its angle very obtuse, as may be seen in the plates in Carus's atlas; where the reader may also observe the contrast between the "three cranial vertebræ" of cretins and others.

In regard to the stature of cretins, there are many in Savoy only about three feet. They rarely exceed four feet eleven inches, and are mostly under four feet, though they may attain even six.

The symptoms of Cretinism may be thus recapitulated, almost in the words of Brierre de Boismont:—Peculiarity in the form of the head; a disproportion between all or certain parts of the body, in consequence of defective development; imperfect nutrition, to a greater or less extent; generally, absolute powerlessness of reproduction, or, at any rate, great torpidity in this respect; little muscular energy; voluntary movements undecided; inability to stand beyond a short time; total want, or a marked imperfection, of language; imbecility more or less decidedly exhibited in the countenance, as well as in the character.

"The coexistence of all the preceding conditions," observes the above writer, "constitutes absolute Cretinism; the absence of any one of them or the diminution of their intensity, constitutes semi-cretinism. Between these two extremes the gradations are infinite."

After this review of the symptoms manifested by cretins, we recur to the inquiry, In what does a cretin differ from an idiot?

In the first place, an idiot is born with his deficient development; the malady is congenital and organic. The cretin, on the contrary, may for some time appear free from disease, and, if

of the antero-posterior and transverse *diameters* of cretin crania do not show the same absolute difference, but, when compared with the normal skull, indicate a similar disproportion.

placed under favorable circumstances, might escape, although it is obvious that he must have a greater predisposition to this peculiar condition than a neighbour who does not become a cretin; this predisposition is clearly hereditary, and Fodéré found, that if a male affected with goitre, the son of a goitrous semi-cretin, married a semi-cretin, their offspring was a complete cretin. If, on the contrary, a male cretin of the second class married a healthy mountaineer, the offspring would be a cretin of the best (the third) class. But, if the races did not continue to cross, then the offspring of such an union resembled the grandfather and not the father. As, with the highest authorities, we have decided to restrict the term Idiocy to a congenital condition, we must distinguish it from Cretinism, which may be acquired at various periods of life.

Secondly—Cretinism is endemic; Idiocy is not so, but appears in our own country, without any particular regard to locality. From this, the ætiological point of view, its toxic origin is its distinguishing characteristic.

Thirdly—the brown or yellow colour of the skin, the remarkably high and arched palate, the considerable proportion of cases in which the thyroid gland is enlarged,* present points of contrast to ordinary Idiocy.

Fourthly—Cretinism is more curable than Idiocy. We do not speak now of educability. Morel observes with truth, that the idea that Cretinism is merely the lowest stage of Idiocy has been fraught with mischief, by rendering the prospect of cure almost hopeless, instead of pointing out the existence of some cause—some poison—external to the cretin (although it may act upon him even in fœtal life), the removal of which is the first step to take towards benefiting him.

But, fifthly and lastly, the most marked distinction exists in the greater degree in which, in cretinism, both systems, the nervous and muscular, are affected. In Idiocy, there may be great deficiency of the mental functions, without anything like the same amount of loss of muscular power and co-ordination.

* Of 5923 cretins, 3912 were goitrous, 2011 not. This does not, however, include cases in which the neck was short and thick—a numerous class. We believe that goitre is found wherever cretinism is not merely sporadic. It would seem as if a more powerful dose of the same poison were required to produce cretinism. Hence goitre may exist without cretinism.

"L'idiot," says M. Baillarger, "est un être dont l'arrêt de développement porte sur l'encephale, tandis que chez le cretin, il y a un arrêt général, tant du développement du cerveau que de l'ensemble de l'organisme." The size of the feet is quite disproportionate to that of the trunk, while the prominent abdomen resting upon lank attenuated legs, and the head, which is sometimes cumbrously large, drooping over an ill-developed thorax, exhibit humanity in its most distorted form.

Ætiology.—To the causes of Cretinism we shall now briefly refer; the conclusion at which the Sardinian Commission arrived was, that, notwithstanding many exceptions, the most general and constant cause is a humid or vitiated atmosphere, whether in consequence of the character and situation of the country (as in the narrow valleys between the mountains), the position and aspect of the dwellings, and the badly constructed, ill-ventilated, and dirty houses, or the want of sunlight; to which must be added the bad quality of the water, and the excess or deficiency of some of its constituents, the bad quality of the food, and its insufficiency for the wants of life. In 1862 we endeavoured to trace the causes of Cretinism in the affected districts, and were confronted with exceptions to every hypothesis we proposed to ourselves as probable. Still, we believe the foregoing contains the general truth.* Sir John Forbes, to whose graphic sketch of what he saw and heard of Cretinism during his 'Holiday' we would refer the reader, observes:—"My present impression is, that its cause is some form of that unknown local influence or thing, commonly recognised under the name of *miasma* or *malaria*, and which operates on the animal system as a poison, producing special modifications of function, and special changes of structure according to certain special conditions, which, however, are, like itself, unknown."

Grange has endeavoured to show that there exists an important relation between the excess of the salts of lime and magnesia

* In reference to the defective vision of many cretins, it may be stated that Dr. Liebreich, of Berlin, examined with the ophthalmoscope the eyes of a considerable number of idiots, and thinks that in some instances at least (those connected with marriages of consanguinity) it is the result of "retinitis pigmentosa."—*Medical Times and Gazette*, April 6, 1861. Recently Dr. Albutt of Leeds has examined 12 patients with this instrument, and states the result in his work 'On the Use of the Ophthalmoscope in Diseases of the Nervous System,' 1871. In these cases he found very decided atrophy of the discs in 5, and advancing disease in 1, while 2 may be called doubtful.

in the drinking water, when accompanied by the absence of iodine, and the development of goitre and cretinism. But more extensive researches appear to be required before this can be admitted as the main, though it may constitute one, cause of the disease.

Morel, whose investigations are of recent date, has arrived at the conclusion that the extent of Cretinism depends, primarily, upon the geological constitution of the soil. In the Département de la Meurthe, he attributes Cretinism to a locality abounding in variegated marl, with gypsum and salt (marne irisée de gypse et sel gemme). In Savoy it is almost exclusively upon clayey and gypsum soil that the disease occurs, while wherever compact limestone prevails, it is rarely seen. Again, magnesian limestone would appear to exert a very prejudicial influence upon the development of goitre and Cretinism. From all which he concludes, that "we are authorised in deducing from the geological constitution of the soil the existence of a poisonous principle, which acts upon the nervous system in the manner of a deleterious *miasma*." Nor does he think this conclusion ought to be set aside by our meeting with cretins in situations high above the level of the sea, where the geology of the district is different, as well as in the dark, narrow valleys. Here he considers that some peculiar configuration of the country takes the place of the constitution of the soil. ('Traité des Dégénérescences,' &c.) It is noteworthy that Cretinism is not met with on the sea coast.

Mr. McClelland, in his 'Sketch of the Medical Topography of Bengal and the North-West Provinces,' arrives at the conclusion that goitre and Cretinism are varieties of the same disease. He carefully examined the geological accompaniments, and states that the proportion of the inhabitants of each of the following strata who were affected with these maladies, stands to the healthy in the following order:

Granite and gneiss:—Goitre, $\frac{1}{500}$; Cretinism, none.

Mica slate and hornblende slate:—Goitre, none; Cretinism, none.

Clay slate:—Goitre, $\frac{2}{385}$; Cretinism, none.

Calcareous rocks:—Goitre, $\frac{1}{3}$; Cretinism, $\frac{1}{32}$.

He believes that water is the medium through which the deleterious influence is conveyed, although no analysis has succeeded in detecting the ingredients to which the effects produced can be ascribed.

It is easy to understand how telluric conditions may affect the mental and physical health of the inhabitants, in some instances, in this way; in others, by preventing the requisite drainage, while in others, again, vegetables, no less than water, may be impregnated with injurious mineral principles.

Sir John Forbes states that, among similar instances mentioned to him, a surgeon at Bonneville, in Savoy, pointed out to him a village near that town, in a gorge of the mountain-range that bounds the Arve on the south, as the only place where Cretinism prevailed in that district; and that he knew a family who had had several healthy children while residing in a more elevated spot, and who, on coming to reside in this village, gave birth to several cretins.

Virchow has made a number of highly interesting observations on the ossification of the various bones of the skull in connection with Cretinism and Idiocy. We think, with a writer in the 'Medico-Chirurgical Review' (July, 1861), that the narrow upper jaw and high palate are, in part at least, influenced by the arrest of growth of the spheno-occipital (or tribasilar) bone. Virchow's views respecting the whole subject of ossification of the sutures will be found clearly stated in the above article. "The suture-substance itself furnishes the material of ossification, stroma for a deposition of the lime salts, so that under ordinary circumstances a skull-bone can only increase equally in all directions when this bone-originating suture-substance lies on all its sides. If, then, adjoining skull-bones be soldered together by a premature and complete ossification of the interlying suture (by synostosis), a limit is set to further growth in that direction. If this happens to many sutures at the same time, a microcephalous skull results. If it only happens to one suture, or to a part of a suture, an abnormally asymmetrical or deformed shape follows." The antero-posterior contraction of the skull already described is accounted for by ossification of the coronal and lambdoidal sutures. When, on the contrary, the cretin head assumes a dolicho-cephalic form, there has been, it is presumed, synostosis of the sagittal suture.

Prognosis (see p. 144).—Bad as the prognosis of Cretinism and Idiocy is, modern philanthropy has done a great deal to modify its unfavorable character. Dr. Guggenbuhl's efforts to educate cretins are well known, and have been attended with a

certain amount of success. When the writer visited the Abendberg some years ago, all the inmates were out of doors and he had no opportunity of testing their condition, but the statements made by Dr. Guggenbuhl were very strong in regard to the improvement which had taken place in mental development. As every one is aware, great difference of opinion exists as to the character and success of the Swiss physician's work; and all that we seem able to state with certainty is that a considerable number of cases were benefited by the care and treatment they received, and that the real or apparent success of this institution gave a stimulus to the education of idiots in this country which has been of great service. In regard to Idiocy, Herr Saegert of Berlin is the most sanguine instructor of this class we have met with in regard to the recovery of mental power in even the lower forms. He assured us when we visited his school that he had indubitable cases, in which the head was small and malformed, yet in which the results of education were so triumphant that they were ultimately able to mix with the world without being recognised as idiots. In one instance a young man underwent confirmation without the priest suspecting that he had been delivered from idiocy. Of course, however, there is a limit beyond which it is impossible to develop the intelligence—a fact which really seems to be sometimes ignored when people talk about the wonderful cures of idiocy. Dr. Maxwell, formerly superintendent of the Earlswood Asylum, has obligingly furnished us with the general result of the care bestowed on idiots under his charge.*

When visiting Earlswood, in 1872, the writer found that during the previous twelve months, out of 288 males, 102 had been employed as mat-weavers and helpers, 32 as tailors, 25 as shoemakers,

* "As to the cases we have in the asylum, I think I may say that they *all* have improved more or less. Kind treatment, good diet, and attention will improve the most hopeless cases. Many that came in dirty, irritable, &c., not only became cleanly, but got to speak intelligibly, to dress themselves perfectly, and make themselves useful. Other cases will do a great deal in the school; for instance, we have a case which came in spiteful, obstinate, and unable to read and write. Now he reads well, writes well, also writes from dictation, draws very nicely, can sing several songs, plays on the harmonium, and can drill, which has made him walk upright. He has latterly been in the mat-making shop, and can make the best part of a mat. Another boy has *improved* in all the above, and is learning mat-making. He possesses, perhaps, the most intellect of any of the boys; but I cannot say that I think he will ever be like an ordinary person. The cases most favorable are those between seven and twelve, which are healthy, can speak, and are free from fits and paralysis."

22 as carpenters, 19 as basketmakers, 17 as boot and shoe cleaners, and 16 as gardeners. Of 187 males under instruction in the early part of the year 74 could *speak* fairly; 45 make a few sounds only; 43 speak indistinctly; 25 not being able to speak at all; 32 could *read* fairly, 28 read by spelling the words; 27 knew nearly all the letters, 40 knew a few letters, 60 not knowing any; 24 could *write* sentences in copybooks, 31 write easy words, 40 make a few letters, 43 make strokes, 49 scribble or make no attempt. As to *arithmetic*, 15 could do sums by themselves in the simple rules, 25 add from black board and count above 100, 20 count above 50, 23 above 25, 58 a little, 46 not at all, 35 knew all the coins and weights, and could calculate at the "shop lesson" a little, 55 did not know any, the remainder knew some. As to colour, 36 knew the primary and secondary colours, 42 knew eight or nine, 44 knew one or two, and 65 did not know any; 62 could *draw* either on the slate or paper. Lastly, in regard to an interesting test of capacity, telling the clock, out of the above number of 187 pupils, 119 could not tell the time at all, 26 could tell one or more of the hours, 19 could tell the hours and quarters, while 13 could tell the time to a minute.*

SECTION II.—Dementia.

Having disposed of Idiocy, Imbecility, and Cretinism, we will now pass to the consideration of DEMENTIA.

Synonyms.—*Démence* (Fr.); *Blödsinn* and *Narrheit* (Ger.); *Stupiditá* (Ital.); *Incoherence* (Prichard); *Fatuity*.

Definition.—"Dementia," observes Esquirol, "must not be confounded with Imbecility or Idiocy. In Imbecility, neither the understanding nor sensibility has been sufficiently developed. He who is in a state of Dementia has lost these faculties to a very considerable degree. The former can neither look backward nor into the future; the latter has recollections and reminiscences. Imbeciles are remarkable by their conversation and acts, which greatly resemble infancy. The conversation and manners of the insensate bear the impress of their former state. There exists, therefore, a form of mental alienation which is very distinct—in which the disorder of the ideas, affections, and determinations, is characterised by feebleness, and by the abolition, more or less

* See also the 'Annual Report,' 1872.

marked, of all the sensitive, intellectual, and voluntary faculties. This is *dementia.*"

Classification and Symptoms.—In regarding a number of patients in a state of dementia, we have found it convenient to group them in the following way.

1st. Those who, whether previously well or insane, are gradually passing into a decidedly demented condition. Some confusion of thought, a perplexed rather than a stupid expression, and a failing memory, are the most obvious symptoms. Such patients are not incoherent, or are only occasionally so. They are sometimes conscious of their condition, and carefully avoid committing themselves. They can read and write; but in regard to the latter, it will be found that after composing a few sentences correctly, they express themselves confusedly, and spell incorrectly. We have seen a letter written by a patient in the first stage of primary Dementia, pretty well composed, but full of mistakes in the spelling. This condition is that of *partial* or *incipient Dementia.*

2nd. Those who are so far advanced that they cannot tell their names. Many of this class are dirty in their habits. Their time is mostly spent in listlessness, or muttering to themselves, twirling their fingers about in all directions, now catching up something from the ground with which they play until some fresh fancy seizes them; or scraping together bits of paper, sticks, string, stones, &c., not with the constructive power of the child, but purposeless; or if otherwise, only with the mischievous propensity of the magpie. We then have *complete* or *confirmed Dementia.*

3rd. Those cases which are intermediate between incipient and confirmed dementia.

In a considerable number of cases, Dementia is complicated with General Paralysis. Hence the term Dementia paralytica.

In the Hull Borough Asylum the writer saw, recently, out of 80 male patients, under Mr. Casson's care, seven in a state of Dementia with General Paralysis. To some of these we shall refer under the section "General Paralysis," but the following may serve here as a specimen of a class of patients so common in our asylums.

J. B—, fifty years of age, walks very badly, speaks with difficulty, puts out his tongue (which is tremulous) with a jerk; manifests very little mind. Expression demented. When admitted in February, 1872, he was already advanced in General Paralysis, although the "statement" represented his illness as of only eight weeks' duration.

His wife, however, admitted he had been badly for twelve months. About two years before his admission, he found that a house which he had bought did not belong to the man of whom he had purchased it. This troubled him greatly, as well it might, and appeared to be the cause of the attack. After he had been about six months strange in his mind, his wife observed an alteration in his speech. Soon he became violent, and blamed her for losing his money. He would eat voraciously. At times he would be better and speak more easily; then relapse and be as before. On admission he was very restless, and would not sit still, constantly wanting to push his way somewhere, he knew not whither. He could scarcely utter a word and the tremor of the hands and the lips was marked.

A large number of demented patients, of each class, are subject to fits of maniacal excitement, on the slightest occasion; on the other hand, patients in acute mania are, in consequence of the rapid flow or succession of ideas, perfectly incoherent; and a stranger to the history of the case might be unable to decide whether the patient were demented and excited, or maniacal and temporarily incoherent. "We have found ourselves often embarrassed," says Brierre de Boismont, "in arriving at a conclusion as to the nature of such cases; we have, in consequence, been obliged to submit the patient to a more prolonged examination before giving an opinion. It is a good plan to attempt to make them write; if they do, we then see that they (the dements) have forgotten their words and letters." Guislain, in speaking of the *oppression* rather than *extinction* of mental power which is present in the incoherence of acute mania, well compares it to a veil which temporarily covers the intelligence.

A considerable proportion of the patients in asylums for the insane, afford illustrations of Dementia in its various stages, from the most incipient form to that in which the patient has no longer any just perception of the subjects around him; can no longer exercise his reason; has completely lost the comparing faculty; and has left to him little more than the functions of organic life. In contemplating a group of demented persons, it is instructive to reflect on the various courses by which they have arrived at the same deplorable condition. Were we to retrace their mental history, we should find that some, a few years ago, afforded examples of Melancholia, and were perfectly conscious of all that passed around them. By slow gradations, the mental faculties became dulled, confused, and finally obliterated.

Some were maniacs, the very intensity of whose mental operations appears to have exhausted their supply of cerebral power;

and a too rapid succession of images, which ought to have been spread over a lifetime, has been compressed within the narrow limits of a few months. The very brilliancy of the flame has caused its premature extinction; the oil which should have sustained the lustre of an entire life, has been lavishly consumed in the production of one splendid but useless conflagration. The ashes in the socket alone remain.

Others, again, without any previous stage of mental disease, have suddenly, and it may be by some overpowering shock to the nervous system, become subjects of Dementia.

Some, lastly, have lost their faculties by reason of old age, and are illustrations of Senile Dementia—which in some instances may be truly called "that last infirmity of noble minds."

To many, a group of demented patients appears as uninteresting a subject of psychological study as can be found in an asylum. This, however, is far from being the case, and we would strongly recommend the student to banish such an impression from his mind. For when he remembers that all have once enjoyed mental health, he can have few more interesting inquiries than to ascertain the courses of their present condition. After having traced their previous history, he will still find a wider field for study than he may expect, in determining their present actual state of mind, the way in which they pass their time, &c. It is always a help to have some definite points of inquiry in view in such an investigation. How many can dress themselves? What proportion can read or sew? How many are unable to attend to the calls of nature? How many are subject to attacks of excitement, or labouring under General Paralysis? We will take a few actual cases from a group of demented women now before us (1858), and in the briefest manner touch upon a few of the leading features of their history and present condition.

The first is a woman so agile and playful that you are surprised to find that she is now fifty-seven. For thirty-three years she has been insane. The disorder succeeded suppression of the catamenia, which at first only produced symptoms of hysteria. The return of the discharge, after it had been found necessary to place her in an asylum, was not followed by any improvement; and gradually the condition of mind supervened which is now so apparent—that of complete Dementia. When you ask her her name she gives no rational answer, or responds only by an un-

meaning laugh; then runs away, and perhaps slams the door in your face. When you ask the attendant about her habits, you find they are dirty. As to the way in which she employs herself, she can sew a little, but does nothing consecutively. She will sit by the fire, one minute playing some trick with it, another gazing at it with some apparent object, then as the fit takes her, looking out of the window or running out of the room. In regard to prognosis, you have no hesitation in telling her friends that her case is incurable, but that she may live in her spoiled house to a fair old age.

The next case is that of a woman a little more than fifty years of age, who, like the foregoing, became insane when a young woman. She was only nineteen. When placed under asylum care, three years afterwards, she refused to take her food, grounding her refusal upon conscientious objections. Her attack of Insanity was attributed to fever. In the course of years the above condition of religious Melancholia passed away, but the mind became more and more weakened, and ultimately lapsed into a state of incoherence, accompanied by exceedingly dirty habits. She is not so excitable as the last patient, is generally placid, and her vacancy is never relieved by even a momentary gleam of intelligence, or playful mischief. She usually, when you address her or ask her her name, replies by an unmeaning interrogatory, expressed in the same words every time. She is stout, eats and sleeps well, and may live many years.

The third example of Dementia presents much more intelligence. It is that of a lady some years older than either of the preceding, who, thirty years ago, became insane in consequence of domestic troubles. She first suffered from chorea (not an unfrequent antecedent of Insanity), and was subject to attacks of great mental excitement—recurrent Mania. Dementia ultimately ensued. She differs from both the preceding cases in giving her name correctly, though deliberately, when asked. Her sentences are sometimes coherent, at other times she rambles, and would never carry on, consecutively, a conversation of any length. Her memory of the past is confused, and in regard to many events quite obliterated. Her habits are clean. In this case, as in some others, Dementia proceeds up to a certain point, short of entire incoherence and irrationality, and then becomes stationary for years, perhaps to the end of life. The study of the different degrees of fatuity at

which the malady stands still, and exhibits little tendency to advance, is a very interesting one. In our experience the degree of acquired fatuity has not borne any relation to the patient's original type of mind. The most powerful minds often sink into the lowest forms of Dementia, while, as in the present instance, the downward course is arrested at a comparatively early stage, although the original mental calibre of the patient was below the average. At the same time, it may be true that as regards attacks of Insanity in general, a powerful brain has more chance of recovery than a weak one.

The fourth case is one of considerable interest, and further illustrates the observation we have just made, the patient having been an intellectual and highly accomplished lady, but now sunk into a state of profound and hopeless Dementia. The mother of several children and a widow, she became insane at the turn of life. Several causes operated, however, independently of this critical period, to produce the attack of mental derangement. These were pecuniary losses, and certain family troubles. A strong suicidal tendency manifested itself, accompanied by symptoms of active cerebral congestion, for which leeches were applied. For fourteen weeks the stomach-pump was employed, on account of her persistent refusal to take food. The suicidal symptoms gave way, but were followed by loss of mental power, and at last confirmed Dementia. She is quite unable to tell her name, her language is foul and without any coherence, and she never attends to the calls of nature. She almost always sits in one position, and talks incessantly to herself, or rather declaims against supposed enemies in very unladylike terms.

The fifth case is that of a female sixty years of age, the subject of mental disease since she was thirty-two; the cause of her Insanity not known. Her natural disposition was dilatory; she was always averse to active employment. The attack was chiefly marked by refusal to take food, and by occasional violence to those around her. For some time her condition of mind fluctuated, but after the lapse of four years, she fell into the state of Dementia from which she has never emerged. She was at that period incessantly occupied in playing with a doll, her former condition of excitement being succeeded by much of the playfulness of childhood; and she is now happy and docile, and can play on the piano, sew a little, &c., but memory and judgment are irrevocably gone.

Case the sixth is that of an old woman, three fourths of whose life have been clouded by Insanity. Her mother, a brother, and a sister were all more or less deranged. At twenty-two she was described as being in "a remarkable degree of Dementia, with such stupor that it was necessary to force her food." For sixty long years the remaining fragments of her mind have been preserved by care and kindness. In fact, she was among the first to receive the benefits of that better system of treatment which a few years previously had been inaugurated in this country. Cruelty or neglect would soon have ended her days. When asked her name she makes no reply, and never utters more than a monosyllable. She attends, however, to the calls of nature, and recognises a difference in the persons who surround her.

The prevailing symptoms of the last case we shall introduce as illustrative of Dementia, are very similar to the last. During sixty-one of the eighty years she has existed, she has been insane. Uninteresting as we may fancy such a case to be, at first sight, this feeling is lessened when we trace back her history during those weary years, and find that when a laughing girl of nineteen she was disappointed in love, and became deranged in consequence. Her symptoms alternated between Melancholia and Mania. We have before us a likeness of this patient, taken a short time afterwards, and it is curious to compare the features of youth, freshly marked by sadness and the early signs of weakness, with her present physiognomy, deeply stamped with the lines of incurable Dementia. With proper attention, no difficulty is experienced in this case as regards the fæcal evacuations, but she occasionally wets her bed. Sometimes she talks excitedly, always incoherently, but she is generally tranquil.

The outward signs of Dementia may, when long continued, be well pronounced in the countenance. It very often happens, however, that when at rest, an observer would fail to discover, in the facial expression, the mental condition of the patient; but, on asking him a question, his true state becomes at once apparent. The vacant and puzzled look, the lack-lustre eye, the weak smile, or meaningless laugh, betray the patient's Dementia. His physiognomy, being the fixed expression and impress of his former sane mind, may remain unaltered; but his pathognomy, being the involuntary reflex of his actual psychical condition when called into action, exhibits all its deficiency and all its degradation—

"And the inglorious likeness of a beast
Fixes instead, unmoulding reason's mintage,
Charactered in the face."—*Milton.*

In this, Dementia differs from those forms of mental deficiency which have originated in a congenital or infantile condition—Idiocy and Imbecility—and in which there is an unvarying accordance between the physiognomy and psychical power. In Dementia, on the contrary, although occasionally, indeed, not one stone is left standing upon another of the once glorious temple of thought, we may frequently trace in the yet undistorted facial lineaments, many vestiges which bear witness to the patient's original mind.

Esquirol notes among the physical symptoms of Dementia, "a pale face, the eyes dull and moistened with tears, the pupils dilated; . . . the body now emaciated and slender, and now loaded with flesh; the face full, the conjunctivæ injected, and the neck short." This description, however, must be taken in a very general sense, and is open to many exceptions. Incurable Dementia is often but too surely indicated by the inclination of the head forwards. Apart from cases of paralysis, there is a general relaxation of the muscular system, often manifested in the walk, and not unfrequently the cause of the crouching attitude patients in Dementia assume. So justly has muscular power been termed the *pulse* of mental affections.

The physical health of patients thus affected is, in general, as Dr. Prichard remarks, tolerably good; they are often fat, have good appetites, digest their food, sleep well; and if in the previous stages of the disease they have been emaciated, they often recover their natural degree of plumpness on the approach of Dementia. Consequently, the return of bodily health, unaccompanied by mental improvement, augurs badly for patients suffering from Mania or Melancholy.

Dementia may be either primary or consecutive; acute or chronic. It may also be simple or complicated; it is occasionally remittent, but rarely intermittent.

It is *primary* when it is the first stage of the mental disease of the patient; and when this occurs, it is, perhaps, one of the most painful forms of Insanity; the patient often being acutely sensible of a gradual loss of memory, power of attention, and executive ability. There is an occasional confusion of ideas, a transient

blank in the expression, a momentary loss, perhaps, of muscular power, an uncertain gait. At this period we have seen the distinction often well marked between the strictly intellectual and affective disorder; since, in association with the preceding deficiencies, the affections of the patient have been remarkably warm, and his moral sense unimpaired. As generally presented to our notice, however, at a later stage, Dementia extends far beyond the former class of mental disorders—those, namely, involving the intellectual faculties—and involves in the mental ruin the moral feelings, to a greater or less extent, also.

Moral alienation is, indeed, so constant a feature of Insanity in general, when the patient comes under care, that Esquirol regarded it as the proper characteristic of mental derangement. "There are madmen," says he, "in whom it is difficult to discover any trace of hallucination, but there are none in whom the passions and moral affections are not disordered, perverted, or destroyed. I have, in this particular, met with no exceptions." On the other hand, it is sometimes remarkable to witness the slight degree in which the affections have been weakened by an attack of Insanity, surviving, in fact, an injured intelligence, in accordance with the remark of Pinel, that he had nowhere met, except in romances, with fonder husbands, more affectionate parents, more impassioned lovers, more pure and exalted patriots, than in his intercourse with the Insane.

Primary Dementia occurred in the following melancholy cases:

Martha S— was a respectable young woman, seventeen years of age, in the full possession of her mental faculties. Having occasion one evening to pass through some fields near the town where she lived, she was assaulted and violated. *From that hour she never spoke.* She became completely demented, staring vacantly about her, answering questions incoherently, tossing her arms about like an idiot child. She lived nine years in this deplorable condition. A post-mortem examination was made. The brain was well formed, but there was a somewhat softened state of one portion of it; a condition probably of recent date. Beyond this nothing worthy of note was observed. The outline of her face and head contrasted remarkably with that of a true idiot. She seemed like some form discovered among the ruins of Pompeii, suddenly arrested in the midst of health, and struck in an instant with mental death.

A case related by Sir Henry Marsh, in the 'Dublin Quarterly Journal' (August, 1853), affords another example of complete prostration of mind occurring suddenly, without any prior mental disorder. A young lady gave her father a draught of laudanum in mistake for senna. From the time of his death a few hours after, "she was lost to all knowledge or notice of persons and occurrences around. Food she never took, excepting when it was placed upon her tongue. The only sound which

escaped her lips was a faint 'yes' or 'no.' . . . To her the world, and all things in it, were a blank." She died within a year.

Ormichund, the Gentoo merchant, became "instantaneously speechless, and soon after insane," when, at the termination of the battle of Plassy, he was informed that the promise which had been made to him of a million of money for assisting to dethrone the Nabob of Bengal, would not be kept.

Dementia is much more frequently *consecutive;* that is, the consequence of other diseases of the mind. Thus, during forty-four years, while 277 cases of Mania and 215 of Melancholia were admitted at the Retreat, only 48 of Dementia were admitted during the same period; yet, at the end of that term, there were remainining in the institution, 20 patients in a state of Dementia out of 91 inmates.

Mania very often degenerates into Dementia; as also do Melancholia and Monomania. Esquirol states, that of 235 patients in Dementia, he found that there were 33 who had been maniacs, or monomaniacs; the proportion is, probably, in general much greater than this, especially if cases of Senile Dementia are excluded. Again, the mortality in asylums is chiefly among the demented. Thus, during forty-four years at the Retreat, the proportion of deaths per cent. of the admissions was—in Dementia, 43·75; while, in Monomania, it was 28·12; and, in Mania, 18·79. And at Charenton, of 221 patients who died, 115 were Demented, 60 laboured under Mania, and 43 under Monomania; results to be expected, not only from the constant tendency of Mania, and other forms of mental derangement, to pass into Dementia, but from the large number of cases in which Dementia is associated with General Paralysis. This remark, while applying to the statistics of Charenton, does not apply to those of the Retreat, in which General Paralysis is a rare disease.

It should here be observed, that the term Dementia, may be, and sometimes is, too indiscriminately employed. All writers of authority agree in representing an impairment of the memory as one of the earliest symptoms of Dementia; but, we believe, cases are occasionally classed under incipient Dementia; in which close observation would show that the memory is unimpaired, both as regards circumstances long passed, as well as those of recent occurrence. It is often rather a torpid condition of the mind, falling under the division "Apathetic Insanity," which ought not to be confounded with Dementia, and in which the prognosis differs so much, that if recovery take place, a very

false inference would be drawn, in regard to the curability of genuine Dementia.

There is another condition of mind closely allied to Dementia, in so far as there is a suspension of mental power, but differing widely in other particulars. In the "ecstasy" of Guislain, the patients sits as immovable as a statue, is scarcely sensible of pain, and does not reply to the questions addressed him. The intellectual powers are suspended. Although there is considerable tension of the muscles, there is not a genuine cataleptic condition present; the symptoms persist,—not as in catalepsy, leaving the patient for a time in his usual condition, and then recurring.

The *acute* form of Dementia is very rare. Brierre de Boismont mentions a case in which the incoherence was complete; the patient did not speak two rational words in succession; she resembled, in fact, a person in second childhood. Fifteen days after her admission, her conversation began to exhibit some degree of sense; every day some improvement took place, and she went out at the end of a month, perfectly cured, dying three years afterwards, without having had any relapse. When he first saw this patient, he pronounced her to be incurable. Another example was afforded by a woman who was in a most confused condition of mind, and talked very incoherently; loss of memory was marked; she forgot when she had just had a meal, and would say that she had had a long walk, although she had not left her bed. Warned by the previous case, M. Brierre observed to the patient's medical attendant:—"If this were the first case, I should declare it incurable; but the rapid course of the symptoms, the analogy which I observe between this patient and another I have seen, make me hesitate, and I shall not be surprised if this patient recover." In one month, she was entirely restored to reason.

Esquirol gives, as an illustration of this form, the following case only. The patient, when twenty years of age, had, for three months, violent pain in the head. She suffered from insomnia for four days, and afterwards from delirium. She was brought to the Salpêtrière in a state of mania, which lasted for nearly two months. The patient then sank into a state of complete Dementia. She appeared insensible to everything that was passing around her; did not change her place; never spoke, not

even in reply to questions addressed to her. This state continued for two months, when Esquirol applied the actual cautery to the neck; this provoked a general irritation and maniacal delirium, which lasted for several days. A month afterwards, the menses reappeared. The patient became convalescent, and her tastes and habits of thought such as they were previous to her illness.

The condition of mind now spoken of as "Acute Dementia," is the same as that which Georget describes as *stupidité*. This writer, Ferrus, and Belhomme, regard it as a distinct form of mental disorder, while M. Etoc Demazy and others, consider it as an accident of Insanity or any other disease. Foville defines it as a rapid abolition (it would be more correct to say suspension) of the intellectual, moral, and instinctive faculties, but curable. M. Baillarger has clearly shown that, in a large number of these cases, there is a state of profound melancholy, and that the patient, on his recovery, is able to refer his torpor and apparent dementia to some all-absorbing painful delusion, with which he was impressed. This writer, therefore, regards what has been designated Acute Dementia, or *stupidité*, as an extreme degree of one form of Melancholia, to which we shall have occasion to refer when we treat of that disorder of the mental faculties, and which he terms *mélancolie avec stupeur*.

We think that the term "Acute Dementia" may very properly include two somewhat different conditions of mind. We believe that, after making the deduction required by M. Baillarger's just observations, cases remain like those reported by Esquirol and Dr. Brierre de Boismont. But we believe there are cases apparently not comprised by Esquirol and other writers, under the term Acute Dementia, which, however, properly belong to it. We refer to those which are not necessarily marked by decided loss of sensibility, or by that prostrate—almost speechless—condition which the last-mentioned writers note as present in the instances observed by them. There is, however, for a certain period—it may be only a few weeks—a state which scarcely differs in anything from the ordinary forms of Dementia, except in the fact of its terminating in recovery, and this in a comparatively short period of time. We have recently seen a lady pass from a condition marked by emotional disturbance, to one of complete incoherence, loss of memory, inability to recognise those around her, accompanied by

a completely demented physiognomy. The characters of genuine Dementia were present, and a return of coherence appeared highly improbable; yet, within four or five weeks, her conversation became rational, and her expression of countenance the same as previously.

When Dementia becomes *chronic,* the general description which has already been given of the disease more especially applies.

Ætiology.—The causes of Dementia are various. We have spoken of it as a sequence of General Paralysis and of Mania. It may succeed apoplexy, especially those transient attacks which injure the mind more than the body; epilepsy; intemperance, and the physical and moral causes of other forms of Insanity. Fright is a well ascertained cause. At the Retreat a patient was admitted in a state of Dementia produced by fright. He was naturally of a timid disposition, and during his apprenticeship his master frequently amused himself with exciting his fears. One evening the servant girl dressed herself up in men's clothes, and opening the shop door, snapped an unloaded pistol at him. This so terrified him that his faculties were immediately injured. He became shortly afterwards almost frantic, and after being out of his mind for about two years, he was brought to the Retreat incurably demented. In speaking of Primary Dementia, we have spoken of several cases produced by sudden grief. We would here add the following remarkable illustration from Pinel:—"An engineer proposed to the Committee of Public Safety, in the second year of the Republic, a project for a newly-invented cannon. A day was fixed for the experiment, and Robespierre wrote to the inventor so flattering a letter, that, upon perusing it, he was transfixed motionless to the spot. He was shortly afterwards sent to the Bicêtre in a state of complete Dementia. About the same time, two young conscripts who had recently joined the army, were called into action. In the heat of the engagement one of them was killed by a musket-ball, at the side of his brother. The survivor, petrified with horror, was struck motionless at the sight. Some days afterwards he was sent, in a state of complete dementia, to his father's house. His arrival produced a similar impression upon a third son of the same family. "My sympathy," adds Pinel, "has been frequently arrested by the sad wreck of humanity presented in the appearance of these degraded beings; but it was a scene truly heartrending, to see the wretched father

come to weep over these miserable remains of his once enviable family."

Senile Dementia may be regarded as another variety, although when established, it differs little in its symptoms from the chronic form. Among celebrated men at an advanced period of life who have succumbed to this form of mental disease, one of England's most distinguished writers and poets may serve as an illustration of the various incipient symptoms and ultimate steady progress of senile decay of cerebral power. When sixty-five years of age there was, we are told, in the 'Life of Southey' (vol. vi, p. 386), evidence of defective memory on some points, less acuteness of the perfective faculties, an unaccustomed irritability, confusion of time, and of place, as indicated by his losing his way in well-known places. The vigour of his faculties in general was observed by his friends to be weakened,—a gleam or two now and then of his former genius, but at other times a painful absence of his usual animation, perspicuity, and elasticity of mind. His appearance is characteristically described as one of placid languor, sometimes torpor, but generally cheerful—all fire and strength gone from his face. We have spoken of the painful consciousness which sometimes marks the first stage of Primary Dementia. So with the poet. He would lose himself for an instant, and, being fully conscious of it, "an expression passed over his countenance which was exceedingly touching, an expression of pain and also of resignation." Then there was the altered step, and the eye fixed, now on space, now wandering anywhere; now turned to his books as he walked round his library, "taking them down mechanically." Recent events, as is usual, were the first to be forgotten, the memory thrown clearly on the far past, and going back further and further, as the mind approached nearer and nearer to its second childhood. When he could not recall a name, he would sometimes (his son states) "press his hand upon his brow and sadly exclaim—'Memory! memory! where art thou gone?'" The final stage was marked by a dream-like state of existence, which extended over the last—the sixty-eighth—year of the poet's life.

As Prichard remarks, Senile Dementia "has been observed frequently to make its appearance in men long engaged in active pursuits, soon after they have relinquished their business or professions, and have laid themselves by to enjoy ease and leisure

for the remainder of their days. The disease often appears in a more marked and sudden manner in elderly persons, who have sustained a slight attack of apoplexy or paralysis which has, perhaps, been speedily recovered from, and might be expected to have left but slight traces of disease. This expectation is verified, so far as the sensitive and motive powers are concerned, but the seat of intellect is found to have been shaken to its very centre." In the instance of Southey, a severe domestic calamity, with forty years uninterrupted brain-work, combined to induce the condition of mind just described.

Prognosis.—The prognosis must as a rule be most unfavourable. (See p. 144).

Fever, and acute maniacal paroxysms have, however, occasionally been the means of restoring to reason patients apparently sunk in hopeless Dementia. Of the effects of the former, several instances are on record. (See p. 133). Such cases prove the fundamental difference which exists between Dementia and Idiocy, in which no feverish excitement of the brain could dispel the cloud and allow of sunshine.

The transient gleam of intelligence occasionally occurring before death is referred by Dr. Despine to the principle enunciated by Claude Bernard, that when a histological element dies or tends to die, its irritability augments before it is diminished. That this does not always occur in Dementia is explained by this writer by the circumstance that the brain-cells are, in the great majority of cases, too much degenerated to exhibit any vitality, and that, therefore, it is only when there is "a sort of paralysis of the histological elements of the brain" that such lightening up before death takes place.

To the influence of maniacal paroxysms, Pinel bears witness. "Many, especially young persons, after having remained several months or years in a state of absolute Dementia, are attacked by a paroxysm of Acute Mania, of twenty, twenty-five, or thirty days' continuance. Such paroxysms, apparently from a reaction of the system, are, in many instances, succeeded by perfect rationality." He relates the case of a man in whom Dementia had been induced by over depletion, and "all the functions of the understanding obliterated." Prior to recovery, "his countenance was flushed, his eyes wild and prominent, attended by febrile excitement, extreme agitation, and at length complete delirium. Thus raised to

maniacal consequence, our hero sallied forth, and provoked and insulted every person he met with as he went along. He continued for twenty days in a state of delirious excitement, when a calm succeeded, and the dawn of reason faintly glimmered above the tempest. Moderate employment and regular exercise, co-operating with the energies of Nature herself, restored him, in a short time, to the full enjoyment of his intellectual faculties." We know of a case of Dementia, however, occurring in a young man, in which an attack of Acute Mania that promised much, passed away without any good result.

SECTION III.—Delusional Insanity.

From Dementia, which, with Idiocy, Imbecility, and Cretinism, belongs to feeble conditions of our intellectual constitution, we pass to DELUSIONAL INSANITY, which, for the most part, exemplifies undue intensity of the conceptive and perceptive faculties.

Synonyms and Definition.—The term "Monomania" was employed by Prichard in the foregoing sense. "Monomania, or partial Insanity, is characterised by some particular illusion or erroneous conviction impressed upon the understanding, and giving rise to a partial aberration of judgment: the individual affected is rendered incapable of thinking correctly on subjects connected with the particular illusion; while in other respects he betrays no palpable disorder of the mind."

When there is no morbid perception, but only a false conception the French employ the expressions *conception fausse, conviction délirante* and *idée fixe*.

Prichard's definition sufficiently describes *intellectual* Monomania, with which, alone, we are now concerned. There is, however, an *affective* Monomania; and a Mania without delirium (*i. e.* without disorder of the intellect), or *instinctive* Monomania; these will demand our attention subsequently.

Dr. Falret has been represented as denying the existence of Monomania; but, although he objects to the term, and inclines to the idea of the mutual dependence or *solidarité* of all the mental faculties, he appears virtually to admit the condition of mind indicated by it, under the head of "partial expansive In-

sanity." Moreau ignores Monomania altogether; and observes, that we are mad or we are not mad; we cannot be half deranged, or three quarters; full face or profile. Baillarger says, "I believe that the differences among us are chiefly verbal, and that essentially, and in matters of fact, we are very nearly agreed."

The term Monomania was first employed by Esquirol. Previously, the word Melancholia was made use of; the employment of which was objected to by that writer, on the ground that partial Insanity, is not necessarily Melancholia. Dr. Prichard makes an objection, to the effect, that had the classic sense of the word "Melancholia" not been lost, its adoption to signify pleasurable as well as gloomy, partial Insanity, would not have appeared paradoxical, for ancient writers attached no idea of despondency, but only madness, to the term. This, however, is scarcely correct; for although, no doubt, the Greeks employed the word somewhat loosely, they did certainly attach the idea of gloom to it, when strictly defining it. Hippocrates, in one of his aphorisms, says, "If fear or distress continue for a long time, this is a symptom of melancholy."* And, in other places, he distinguishes Melancholy from Mania, by the absence of violence. Sometimes, however, he applies the word to madness in general.

Modern writers, before Esquirol, used the word melancholy to convey the idea of derangement on some particular point, whether accompanied by gloom or mirth. Thus Cullen included, under melancholy, "hallucinations about the *prosperous*," as well as "the dangerous condition of the body." Dr. Good speaks of "a *self-complacent* melancholy," and defines Melancholia as an alienation confined to a few objects or trains of ideas, quite irrespective of their depressed or exalted character. It was for melancholy, used in this sense—that is to say, any *partial* Insanity, whether gay or sad—that Esquirol introduced the word Monomania, restricting the term *lypemania* to the state popularly understood as Melancholia. But, even Esquirol's use of his own term becomes rather vague, for he employs it in two senses; the comprehensive one just stated, and that of gay partial Insanity—the *amenomania* of Rush. "In lypemania," he observes, "the sensibility is painfully excited or disturbed; the sorrowful and depressing passions modify the intelligence and the will. The lypemaniac fastens upon himself all his thoughts—all his affections; is egotistical, and

* Ην φόβος ἡ δυσθυμίη πολὺν χρόνον διατελέῃ, μελαγχολικὸν τὸ τοιουτον.

lives *within* himself. In Monomania [in the second of the above senses], on the contrary, the sensibility is agreeably excited; the gay and expansive passions react upon the understanding and the will. The monomaniac lives *without* himself, and diffuses among others the excess of his emotions." In illustration of the former, this writer refers to the case of the woman who did not dare to bend her thumb lest the world should come to an end; and to that of the man who imagined the earth covered with a shell of glass, under which were serpents, and did not dare to walk for fear of breaking the glass and being devoured by them. Under Monomania proper, he introduces those cases in which patients believe themselves to be illustrious personages, as sovereigns, &c. Almost every asylum contains within its walls emperors, kings, or queens. Monomanias, therefore, by Esquirol and the French writers who have followed him, are divided, when they write with scientific precision, into those of a pleasurable kind (*monomania* proper, or *amenomania*) and those of a gloomy character (*lypemania* or *melancholia*.) To them, in their relation to the emotions, we shall have to recur when we come to treat of these forms of mental disease. "In our opinion," observes M. Baillarger, "the word Monomania best designates all the cases of partial delirium with a dominant series of ideas, whatever may be the accessory phenomena, the number or variety of false secondary ideas." "A fixed idea in fact, like the delirium of Mania, like hullucinations, the result of the involuntary exercise of the faculties, overcomes the will, in consequence of a diseased condition of the brain." "Monomania is specially indicated by delusion."

To the consideration of delusions in general, we must now direct our attention, as naturally arising out of the consideration of Monomania, of which they often form such striking illustrations. But it must be distinctly understood that Delusional Insanity includes delusions on a large number of subjects as well as one particular class.

There are several terms made use of by psychologists, of which it is necessary to have a clear understanding, but regarding which, unfortunately, great confusion exists among writers on Insanity. We refer to the terms, hallucination, illusion, and delusion. The words themselves do not convey to the mind the sense in which they are employed. If we consult Johnson's 'Dictionary' we find under *hallucination*, the following definition, "error, blunder,

mistake, folly;" while *illusion* is defined to be, "mockery, false show, counterfeit appearance, error;" and delusion, "a false representation, illusion, error, a chimerical thought." From these definitions, which are certainly not remarkable for their discrimination, we may, however, infer that the lexicographer recognised the distinction between the first and the other two words, to consist in the former being simply a state of passive error, while the latter imply the causing others to err. This is consistent with the sense attached by Latin writers to the verbs from which they are derived.

Cicero says—

"Quæ Epicurus oscitans *alucinatus* est."

And Virgil:—

"Circumfusa ruit, certantque *illudere* capto."

In another place he says—

"Aut quæ sopitos *deludunt* somnia sensus."

Hallucinor, or allucinor (more correctly *al*), is derived, by Dr. William Smith, from *αλυω, αλυσκω* and is thus rendered in his dictionary, "to wander in mind, to mistake," &c; while *illudo* is "to play upon, to ridicule;" and *deludo*, "to play false with, to mock, to delude."

Hence, *illudo* and *deludo* are, classically, synonymous, and differ from *hallucinor* in signifying to deceive, or to illude. When there is deceiving, an agent that deceives is implied; and it has probably been in this way that the meaning attached to the words illusion and hallucination, about to be mentioned, has originated.

A man, may be labouring under an error in three principal ways:

An object may appear to be present before his eyes (to take, in illustration, the sense of sight) which has no existence whatever there: he experiences sensations, although no material objects act upon the senses at the time. (Hallucination.) If unable to recognise their true character, when an appeal is made to reason, he is also insane.

Secondly, an object may appear to his eyes in an entirely different form from that which it actually has. Here the sensations are produced by the false perception of objects. (Illusion.) If unable to recognise their true character, when an appeal is made to reason, he is also insane.

Lastly, a person may (independently of *false inductions*) have certain false notions and ideas, which have no immediate reference to the senses as in the two preceding instances; as, for example, when he believes himself or some other person to be a king or a prophet; or that there is a conspiracy against his life; or that he has lost his soul. Or, as another example, he may believe himself to be a tea-pot, without seeing or otherwise perceiving any change in his form.

In all examples under this last head, a man is necesssarily insane. He cannot have a false belief (not simply a false induction, but) the result of disease, and unconnected with the senses, without the mind itself being unsound.

"Delusion" is generally used by English writers to include all these various errors so long as they are not corrected by the understanding. This, however, need not prevent our clearly recognising the scientific distinctions which have been pointed out, and which in psychological literature, may with great advantage be admitted. But while the word delusion may be employed in a general sense to comprise all these divisions, the phrase delusion *proper* would naturally imply any error which is neither an illusion nor a hallucination, and those false ideas or notions which do not strictly speaking involve sensation. In this sense Delusional Insanity includes hallucinations and illusions, whenever they involve the reason.

Instances, however, will occur, as has been already intimated, in which a difference of opinion will exist as to the class to which they ought to be referred. In the example referred to of a man believing himself or any one else to be a tea-pot, Brierre de Boismont would say that he was labouring under an illusion; but such a case would appear to us more properly referable to the third class, that of false notions or conceptions.* There is no false sensation; unless, indeed, we follow Condillac, who regarded imagination itself as only a mode of sensation, and held that "sensation embraces in itself all the faculties of the soul." The

* Esquirol, in reference to such cases, speaks of persons losing their *personal identity*. But this sense is, in reality, no more lost than when the delusion has regard to some extraneous object. In fact, Brown draws one of his strongest arguments in favour of the universality of the consciousness of personal identity from the fact, that "even the very maniac, who conceives that he was yesterday emperor of the moon, believes that he is to-day the very person who had yesterday that empire."—*Philosophy of the Human Mind*, p. 83.

only practical course is to consider in each case, whether there is a false sensational perception, be it visual, auditory, olfactory, gustatory, or tactile.

Again, Brierre de Boismont gives, as an example of illusion, an individual believing that an entire stranger is his wife, or Napoleon Buonaparte. In the majority of such cases, however, there need be no illusion of any of the senses. Thus, a lady, who, when she was insane, believed a particular person to be the Enemy of mankind, informs us, that his appearance was then in no respect different from what it is now; but the patient added, "*Ideally*, he seemed nothing but Satan." On our asking whether she was not surprised at the individual not having the external form vulgarly attributed to Satan, she gave a reply, which was, doubtless, the correct scientific explanation of the fact, "I do not think I had enough reasoning power to be aware of any inconsistency in my belief."

It may here, also, be remarked, that while in genuine illusion and hallucination, no appeal to the reason, even if that appeal succeed in producing conviction, alters the *appearance* of the object; in delusion proper, once convince the patient of the absurdity of his belief, and the disorder itself entirely vanishes.

The following case is a good example of Delusional Insanity, and his cure illustrates the truth of the above remark.

A man thought that his legs were made of glass. His servant, we are informed, "bringing one day some logs of wood to mend the fire, threw them carelessly down; for which her master, who was terrified for his legs of glass, severely reprimanded her. The surly maid, who was heartily tired of her master's insanity, gave him a smart blow on the leg with one of the logs, which hurt him a good deal, and so provoked him that he rose from his seat (from which he never walked for fear of breaking his legs) in a violent hurry, to revenge the insult. Soon after, when his anger was abated, he was happy to find that his legs were able to support him; and his mind was from that time perfectly freed from this absurd imagination." (Van Swieten; and Arnold, vol. i, p. 127.)

Patients have believed themselves transformed into wolves (lycanthropia), dogs (cynanthropia), lions, cats, cows, sparrows, cuckoos, earthen vessels, pipkins, jars, tea-pots, &c. Some have supposed themselves to be grains of wheat, and have been for ever in apprehension lest they should be so unfortunate as to be eaten up; and a lady is recorded to have believed herself to be a goose-pie. It is related of a man, that he believed himself to be Atlas, supporting the world on his back, and was in great

dread lest it should fall and crush, not only himself, but all mankind to atoms. (Op. cit., pp. 124, 129, 133.)

Others believe they are gods, sovereigns, or prime ministers, and afford examples of "Delusional Insanity, of an exalted character" (see p. 54), although we cannot too often repeat that the delusion may be merely the indication of the condition of the affective faculties. To these we shall return when we speak of Monomania involving the Emotions. We may here refer to a case in which the delusion was of this character :

A foreigner believed himself to be Jupiter, and made a great disturbance in the church at Falmouth, in December, 1860. In the midst of the evening service he rose from his seat, and rushed, stick in hand, through the church, shouting in a very excited manner, "St. Pierre! St. Pierre! St. Pierre!" In broken English he exclaimed that he had come there to sleep, and that JUPITER might as well sleep there as in a barn. When removed from the church by the mayor and a dozen other gentlemen, his hat, stick, and a roll of papers were left behind. The following was written upon one of his papers:

Geniology.
Albert and Victoria.
JUPITER.

We learn from Cellini's autobiography, that—

The governor of the castle in which he was confined, "had annually a certain periodical disorder, which totally deprived him of his senses, and when the fit came upon him he was talkative to excess. Every year he had some different whim; one time he conceived himself metamorphosed into a pitcher of oil; another time he thought himself a frog, and began to leap as such; another time he imagined he was dead, and it was found necessary to humour his conceit by making a show of burying him. Thus had he every year some new frenzy. This year he fancied himself a bat, and when he went to take a walk he sometimes made just such a noise as bats do; he likewise used gestures with his hands and his body, as if he were going to fly." (Vol. i, p. 339.)

In all these examples, there appears scarcely to be implied a morbid sensation ; at the same time, in some of them, the false idea may have originated in a morbid sensation. This may, perhaps, be suspected when a man believes himself to be made of butter, wax, &c. The case of the man who believed his legs were made of glass, would by many be called an example of illusion ; but we do not think rightly so. He might not, in the proper sense of the word, *feel* that his legs were vitreous ; he would probably conceive them to be so, but he would not, we imagine, contend that they *looked* like glass. In any one instance, however, in which the patient does so feel or see, the term would, doubt-

less, be correctly applied. When a man, after amputation of the leg, feels it still to be there, he unquestionably does so from false sensations, which, however, he corrects by the testimony of his other senses.

We know of a case in which the patient, who was always suspecting plots against his life (*Monomania of Suspicion* or *Persecution*), used to thrash the hedges and beat the walls with his stick, under the impression that they were his enemies. It is possible the walls and the hedges really assumed in his excited imagination the forms of his supposed foes; but it is much more probable that there was no actual illusion of the visual organs.

Another remarkable case of Monomania of Persecution will be referred to under Hallucination.

The following is a case which will at once serve forcibly to illustrate the strange delusions to which patients are subject, and also the ill-defined boundary line which often separates a false conception, or intellectual belief, from an illusion. It affords an example of "Delusional Insanity of a melancholy character" (see p. 54). Probably, by some, it would be regarded as "an illusion of hypochondriasis;" but we think it is, at least in some of its features, illustrative of Delusion proper.

A patient at the Retreat gave this description of himself: "I have no soul; I have neither heart, liver, nor lungs; nor anything at all in my body, nor a drop of blood in my veins. My bones are all burnt to a cinder; I have no brain; and my head is sometimes as hard as iron, and sometimes as soft as a pudding."

Another patient, equally deranged, thus described him in verse:—

"A miracle, my friends, come view,
A man, admit his own words true,
Who lives without a soul;
Nor liver, lungs, nor heart has he,
Yet, sometimes, can as cheerful be
As if he had the whole!

"His head (take his own words along)
Now hard as iron, yet, ere long,
Is soft as any jelly;
All burnt his sinews, and his lungs;
Of his complaints, not fifty tongues
Could find enough to tell ye.

"Yet, he who paints his likeness here,
Has just as much as him to fear;
He's wrong from top to toe:
Ah! friends, pray help us, if you can,
And make us each again a man,
That we from hence may go."

The expressions "hard" and "soft" would appear to imply that the patient experienced such sensations, and therefore this latter error we should refer to the head of illusion; but the error the patient had fallen into, in regard to the loss of his soul, &c., belongs surely to a different class—to that, namely, of false conceptions, independent of any sensation properly so called.

Many examples of lycanthropia (to which reference has been made) are on record, although an extremely rare disease, as compared with other forms of Insanity. It was recognised by ancient writers. "Those labouring under lycanthropia," says Paulus Ægineta, "go out during the night, imitating wolves in all things, and lingering about sepulchres until morning. You may recognise such persons by these marks: they are pale, their vision feeble, their eyes dry, tongue very dry, and the flow of the saliva stopped; but they are thirsty, and they have incurable ulcerations from frequent falls." Haly Abbas described a disease, which he called *melancholia canina*, observing, that the patient delights to wander among the tombs, imitating the cries of dogs.

This remarkable disorder spread throughout Europe in the fourteenth and fifteenth century. "Those suffering under wolf-madness and dog-madness, abandoned their homes to resort to the forests, allowing their nails, hair, and beard to grow, and carrying their ferocity so far as to mutilate and sometimes to kill and devour children. In the year 1591, Peter Burgot, Michael Verdun, and another, were tried for this strange affection and pleaded guilty. Peter Burgot avowed that he had killed a youth with his wolf-paws and teeth, and would have eaten him, if the peasants had not given him the chase. Michael Verdun admitted that he had killed a little girl gathering peas in a garden and that he and Burgot had killed and eaten four other girls. These three unfortunate persons were all burned alive." ('Des Hallucinations,' p. 327.)

At the asylum of Maréville, there was not long since a patient, the youngest of

five brothers, who had all been insane, whose condition was as follows:—He was a prey to the most fearful apprehensions of future punishment for imaginary crimes; all his limbs trembled while he implored the assistance of Heaven and of his friends. Soon after, he rejected every attempt made to console him, and all his thoughts became concentrated upon one idea. He thought he was a wolf. "See this mouth," he exclaimed, separating his lips with his fingers; "this is the mouth of a wolf, these are the teeth of a wolf; I have cloven feet. See the long hairs which cover my body; let me run into the woods, and you shall fire at me with a gun." Some time after this, when in an improved condition, he enjoyed nursing some children; but, scarcely had they left him, when he exclaimed: "The unfortunates! they have embraced a wolf." At another time he refused to eat his meals, but said: "Give me raw meat, for I am a wolf!" His wish was complied with, and his mode of eating was altogether like an animal. He shortly died, however, much emaciated, the victim, to the last, of this strange and terrible conception.

Esquirol states, on the authority of Calmet, that in a convent in Germany, the monks believed themselves changed into cats, and that, at a certain hour of the day, these monks capered about the convent, mewing as fast as they could. One of the *Convulsionnaires*, Pinault by name, barked like a dog, and was, as might be expected, soon followed by others. Recently, in a Paris asylum, a patient believed himself to be a horse, and neighed like one.

This case affords an opportunity for making the remark, that a delusion is very frequently the last symptom in the succession of morbid mental phenomena; that, in truth, it may be but the reflex of an emotion; and though, strictly speaking, an intellectual disorder, it may be the result, and merely the symptom, of a disorder of the feelings. Moral Insanity, indeed, not uncommonly terminates in well-marked delusional disorder. The delusion of being a royal personage may be an intellectual conception and yet the offspring and the index of uncontrollable pride; and in the foregoing case, the belief in the transmutation into a wolf was intimately associated with a depressed state of the feelings—with Melancholia.

The same observation applies, with even greater force, to another so-called Monomania; the disorder in which the patient conceives himself to be demoniacally possessed. Dæmonomania, in the vast majority of cases, has been but a symptom of disease of the affective faculties; so complex are the phenomena of diseased mind, and so completely do they set at defiance any rigid system of psychological classification.

Paulus Ægineta, after speaking of madmen who fancy themselves to be brute animals and imitate their cries, and of others

who conceive themselves to be earthen vessels and are frightened lest they be broken, adds :—" Some believe themselves impelled by higher powers, and foretell what is to come as if under divine influence; and these are, therefore, properly called demoniacs, or possessed persons." This description, however, although it may have included, does not exactly describe more modern cases of Dæmonomania—in which the patient is much depressed, pretends to no supernatural knowledge, and is firmly convinced either of being possessed by, or actually transformed into the devil.

A patient under Esquirol's care thus described herself:—" The devil has taken from me my body, and I have no longer a human shape. There is nothing so dreadful as to appear to live, and yet not be of this world. I burn—sulphur exhales with my breath. I neither eat nor drink, because the devil has no need of food or drink. I feel nothing; and, should I be placed in a terrestial fire, I should not burn. I shall live millions of years; that which is upon the earth cannot die. Were it not so, despair would have caused me long since to terminate my existence."

" Nothing," says Esquirol, " undeceives her, and she is abusive in her language to those who seem to doubt the truth of what she affirms; those who contradict her she calls sorcerers and demons. If they insist upon the correctness of their opinion respecting her, she becomes irritated, her eyes project, and are red and haggard. 'Look, then,' she says, 'at this beautiful figure; is it that of a woman or a devil?' She strikes herself violently with her fist upon her chest. She pretends, also, to be insensible; and, to prove it, pinches her skin with all her might, and strikes her chest with a wooden shoe. Still, she manifests pain when not forewarned. This woman is tranquil, is not mischievous, and speaks rationally upon every other subject, when we can divert her thoughts."

The writer we have just quoted from states that, out of twenty thousand insane persons who had passed under his observation, he had " scarcely seen one in a thousand stricken with this fatal disease." He suggested, that the term *Cacodæmonomania* should be employed; as the ancients did not use the word demon, necessarily, in a bad sense: while he would apply that of *Theomania* to those cases in which the patient believes himself to be the Deity.

Examples of Dæmonomania, and of other delusions, might be multiplied; those we have mentioned are, as it appears to us, mainly referable to the third division—that of delusion proper, although it is impossible to deny that in some instances a morbid sensation may have formed the basis of the delusion. The consideration of the first and second divisions will now demand our attention.

False Sensations.—We will first take *hallucinations.*

They were not regarded by Esquirol as caused in any instance by morbid conditions of the organs of sense, but as strictly cerebral, that is, mental in their origin. "The senses," he says, "are not concerned in their production; they occur although the senses do not perform their functions, and even though they do no longer exist." This, of course, is quite true. It may be well doubted, however, whether there is sufficient reason for thus restricting the term, inasmuch as one individual may perceive an object which has no present existence (his mind becoming secondarily affected) in consequence of a diseased condition of the optic nerve in the first instance; and another may perceive an object which has no present existence in consequence of primarily mental—that is, cerebral—disease. Dr. Foville, indeed, stated that he discovered lesions of the nerves in patients who had been the subjects of hallucinations,—a circumstance Esquirol was inclined to attribute to coincidence. Baillarger, moreover, has distinctly recognised this possible duplex origin of hallucinations, which he has divided into *psycho-sensorial,* or those which originate in the combined action of the imagination and the organs of sense; and *psychical,* or those which are the consequence of a disordered mental condition, without disease of the senses. Brierre de Boismont considers that these distinctions depend upon the degree of intensity of the phenomena. Referring to hallucinations of the sense of hearing he says: "If the perception be feeble, the hallucination is without noise; if it be more intense, a sound is heard." And he thinks "the sound is heard, not from extension of the disease to the senses, but because certain conventional signs, always associated with certain ideas, are recalled when those ideas are produced with great vividness." Thus, he defines a hallucination "the perception of the sensible signs of an idea." "With the reflective man, it is the highest degree of tension at which his mind can arrive—a true ecstasy. In societies with profound convictions, where the imagination is not rectified by science, it is the reflection of a general belief; but, in these two cases, it does not offer any obstacle to the free exercise of reason." In such instances, Brierre de Boismont would call them *physiological* hallucinations, as distinguished from those which are accompanied with unsoundness of mind, the *pathological.* This view of the subject, as he observes, "leaves on their pedestal the statues of illustrious

men, whom some would wish to throw down into the abyss of Insanity."

It is important to bear in mind this distinction, and not to forget that hallucinations may exist without Insanity. Thus, Andral, on entering his room, distinctly saw, for a quarter of an hour, the corpse of a child which he had dissected a short time before. Johnson, one day at Oxford, when he was turning the key of his chamber, heard his mother distinctly call "Sam," although she was then at Lichfield. We approach in the following instances the border-land of Insanity, but in such cases the opinions of an individual, apart from disease, must be taken into consideration. For a Spiritualist, for instance, to believe that he sees his guardian angel is no proof of Insanity. Jerome Cardan the physician, and Erhard, both believed that they were attended by a supernatural personage. Erhard's guardian was always attired in a black cape. Napoleon was said to have interviews with a familiar spirit in the form of a little red man; and, on better authority, we are informed that he saw his star. "I see it," said he, "in every great occurrence; it urges me onward, and is an unfailing omen of success."

Now that we are engaged in considering the disorders of the mind, we discard the use of the term in the physiological sense, and restrict it to the perception, along with evidence of cerebro-mental disease, of objects which, at the time, have no existence; this false perception being either the consequence of the combined disordered condition of the mind *and* one or more of the senses (psycho-sensorial), or of the mind only (purely psychical).

In regard to their frequency among lunatics, Esquirol says that of 100 insane patients, 80 have hallucinations. Brierre de Boismont states, that out of 62 patients in his asylum, hallucinations were present in 38 instances. With 18 monomaniacal patients, sight and hearing were involved in 8, taste and hearing in 1, hearing alone in 2, and sight alone in 1. Of 66 cases of Monomania, admitted during one year into the Bicêtre, 35—or one half—had hallucinations; namely, 19 of hearing, 11 of sight, 3 of taste, 1 of touch, and 1 of the internal organs. Melancholia affected 21 out of the 66 monomaniacs, and of these, 11 had hallucinations; 6 being of hearing, 3 of sight, and 2 of taste.

In Mania, hallucinations are frequently present. The writer last quoted, states that of 181 maniacs, 23 had hallucinations of hearing, 21 of sight, 5 of taste, 2 of touch, 1 of smell, and 2 of

internal sensations. Hallucinations are also frequently observed in Puerperal Mania.

In the earlier stages of Dementia, we meet with these phenomena; also, occasionally in General Paralysis. An instance is on record, in which the patient had almost lost the power of speech; at times, however, he was able to make those around him understand, that he could see a shark beside him ready to devour his body. A patient now in the Retreat, labouring under Dementia, is the subject of the same hallucination. On retiring to rest, he is frequently alarmed by the appearance of a shark by his bedside.

In regard to the relative liability of the senses to hallucinations, although among the sane, those of sight are most frequent; among the insane, those of *hearing* appear to be decidedly the most common. They are estimated to form two thirds of the whole number. They appear to be most generally experienced when the patient is falling asleep; partly, no doubt, in consequence of the less degree in which, at such times, the attention is fixed, or the comparing faculty exercised. Of 144 cases of hallucinations, 62 are stated to have been in the night, 50 in the day, and 32 during both. A patient at the York Dispensary used to complain bitterly of a voice repeating in his ear everything that he was reading; and, on one occasion, he distinctly heard the same voice commanding him to throw himself into a pond in his garden. He obeyed the voice; and, when removed from the water and asked why he had done so rash an act, he replied, that he much regretted it, but added, "*He* told me that I must do it, and I could not help it." We know a case in which the patient believes he can at any time communicate with or consult an absent relative. Often when asked a question he appeals to this individual before replying, and receives, as he imagines, a distinct answer by which he is entirely guided. A patient at the Retreat used to believe she heard some one ordering her to seize the property of other persons. She accordingly did so, and would not restore the stolen goods, unless, as she imagined, the voice permitted her. In another case, a lady heard voices which told her that if she committed certain acts, or omitted to do others, she should have her right breast and her head cut off. As these punishments were often to be inflicted by those around her, she became much incensed at the attendants when they refused to comply with her wishes. Signs of amendment appeared in about

three months after admission, and she ultimately recovered. The poet Cowper was distracted by hallucinations of the sense of hearing. "The words," says his biographer "which occurred to him on waking, though but his own imaginations, were organically heard; and Mr. Johnson, perceiving how fully he was impressed with a belief in their reality, ventured upon a questionable experiment. He introduced a tube into his chamber, near the bed's head, and employed one, with whose voice Cowper was not acquainted, to speak words of comfort through this conveyance." It is a remarkable proof how real such hallucinations appear, that this hazardous artifice was never discovered. It does not, however, seem to have been productive of any benefit. His medical attendant one day found him with a penknife sticking in his side, with which he had attempted self-destruction, believing he had been ordered to do so by a voice from heaven.

In a patient in the York Asylum, an old monomaniac and an inveterate scribbler, some of whose composition is now before us, the medical superintendent, Dr. Needham, could never discover the slightest craze except on the point described by him in the letter quoted further on. His brother had the same delusion, and cut his throat under its influence.

In this letter, which extends over twenty-three large and closely written pages, he accuses sundry persons of conspiring against him to prevent him sleeping at night, and he gives numerous conversations, which he says he heard, proving that his suspicions were well founded. He drew correct inferences from false premises. He says that the men Walker and White originated a system by which they prevent him sleeping in the night.

"From the mental connection and bodily sympathy between White and me, there is no need for him but to *breathe low a succession of formed words*, as long and as often as he pleases, which words consist of remarks directly and indirectly on my thoughts, of which he is perfectly conscious. Owing to this system I am obliged perforce to hear whatever he says, almost at any distance. Thus, while he is lying in bed in his own bedroom, he carries on this system a great part of each night, and keeps me awake till by some chance or other, I fall asleep. Both Walker and White have intended by this system to make me actually insane, by depriving me of sleep as much as they possibly could, or to present such an appearance as if I had *naturally* sleepless nights, without either of them being supposed to have had anything to do with it. White himself gets as much sleep as he can during the day in order that he may carry on this system during the night, and carry on his work in the kitchen during the day as usual, sedulously keeping up all external appearances, so as to evade suspicion from any quarter. This was just the way Walker acted. If I myself attempt

to get any sleep during the day to repair the deficiency of the night, White, from knowing my thoughts, knowing also what I do or intend to do, resumes this system and effectually prevents me. . . . . Henry and Edward Harcourt, who have been in mental connection and bodily sympathy with me before and since I have been in this asylum, and have at the distance of a mile or so round this asylum and York, for about twenty-one years, carried on the same system as Walker and White have carried on, and have been occupied every day, from morning till late at night, with making remarks directly and indirectly on my thoughts of which they have a perfect cognizance, while retaining their own individual consciousness, and which, owing to my rapport with them, I am obliged perforce to hear, are necessarily placed in the same position with regard to White as I am. Henry and Edward Harcourt are in rapport with me, and White is in rapport with me. Whatever remarks on my thoughts H. and E. H. make to me, at whatever distance, White hears. Whatever remarks on my thoughts White makes to me, at whatever distance, H. and E. H. hear. Henry and Edward Harcourt are conscious of and hear every word White says to me, and besides carrying on this system on their own account, they repeat after White, when he operates on me, separately and simultaneously, every word he says. At the distance of a mile or two they make their remarks *in their own distinct voices*, which I, owing to my mental connection and rapport with them, am compelled perforce clearly to recognise and hear. White *breathes low a succession of formed words*, in reference directly and indirectly to my thoughts. . . . . I put down with careful selection some remarks made by White on various occasions in the course of his carrying on this peculiar system, in order to prove from their internal evidence the truth of my previous and present statements of the system, which Walker formerly carried on, and White since his death has carried on.

"Nov. 19th, 6 o'clock in the evening. White in the dining-room,——Gallery, I in Mr. ——'s room, ——Gallery, reading. I put down the following amongst many other remarks made by White in the course of the evening, while he is carrying on this system.

"'There's something about *this way of going on*, that I didn't think but what you'd be thought out of your senses if you said anything about it. I haven't been thought of, as if I'd anything to do with it; I thought you'd want to get away from this asylum without saying anything about *Walker and me going on this way*.'

"NOTE.—The meaning of this remark requires no explanation. I wish, however, once for all, to call attention to the form and wording of this and subsequent paragraphs.

"'You shall not sleep to night if I can help it; you haven't a leg to stand upon, when you say anything to the doctor, about *this way of going on*. Nobody knows anything about it.'"

Similar quotations and comments occupy nearly twenty pages of this letter, ending with "I could of course multiply this kind of internal evidence to any extent, but I have given sufficient examples of it now and aforetime in the case of Walker to prove that he and White have been engaged in a conspiracy against me, which has done me great injury."

Next in frequency to hallucinations of hearing are those of *sight*. All visionaries afford examples. The remarkable narrative of Cellini contained in his autobiography, illustrates this form of hallucination, as well as that of hearing. A lady at the Retreat

had visions, in which she believed she held intercourse with supernatural personages. Ideas of great family consequence succeeded, and she imagined she was the heiress of very large property. Of this she would give the particulars on paper, and that in so rational a manner, that to any one unacquainted with her actual circumstances, her account appeared perfectly sensible. These delusions led into many acts of impropriety. Her general habits, however, were orderly, and she was capable of conversing or writing rationally, except when she touched upon the subject of her visions or her property. She assumed a great deal of consequence, but did not display it in her attire, which was remarkable for its neatness.

Another lady (under our care) informed us, after her recovery, that she had repeatedly seen her (absent) husband playing at chess in the room in which she was sitting. The chessmen, &c., were exquisitely distinct.

Hallucinations affecting the sense of *touch* are not very common. Patients sometimes complain of experiencing electric shocks; at other times, they fancy they are struck by imaginary beings. Hallucinations of this sense require carefully distinguishing from neuralgic affections. We have known a case in which a gentleman supposed that "electric fire" passed out from his eyes and ears, and that his bedroom was filled with it at night. He charged his friends with being the cause of it.

Hallucinations of *smell* are rarely met with uncomplicated with disorder of one or more of the other senses. Patients do, however, sometimes complain of very bad odours, and at others of very pleasant ones, without other hallucinations. We had a very good example of the former in an insane patient some time since, who complained exceedingly of the injury done to her health by the sulphurous fumes with which some one, as she believed, continually filled her room.

Lastly, the sense of *taste* is but rarely affected alone. Patients who believe they are taking poison in their food are not usually examples of this class.

Hallucination of one sense is less commonly found than hallucination of several.

Sometimes, but rarely, all the senses are involved. The following is a remarkable illustration of this, occurring in a poor woman in York, under the writer's care. ('Monomania of Persecution.')

She is firmly convinced of the existence of a persecuting fellow in a room above her own, who vents all his malignity upon her by means of certain machinery and wires. By the former, he manufactures a quantity of tow, which she sees "whirling round from the ceiling;" and by the latter he torments her in the most cruel manner. He "brays" her in the night with three of these wires, so that she is stiff in the morning, and covered with marks "as if she had been switched," and the difficulty of rising is often increased by "skewing her down in bed." At another time he will thrust three wires into her mouth, which leave "a very bitter verdigris *taste*" therein. She protests that she can see a "hole like the cut of a knife" in one corner of the ceiling, through which he introduces the wires, and she says, "When I try to get hold of them, he soon has them away." He also delights to send her to sleep "with that chloroform," which she *feels* dropping from the ceiling upon her cap, in addition to which she has, in consequence, enveloped her head in a couple of handkerchiefs.

As regards the sense of sight, she has only once or twice *seen* her persecutor; but when she wanted to speak to him, he turned away. He is a middle-sized and middle-aged man. She says, however, very naturally, "I feel him over much to want to see him."

She *hears* him more frequently than sees him; hears him "nestling about the room;" she also hears the wires pushed through the ceiling; and she has stopped her clock, and covered it up, because he used to employ his wires to make it strike some twenty times in the night, in order to disturb her.

Her sense of *smell* is at present free; formerly she was much annoyed in this respect also.

Hallucinations may be continuous or intermittent; they may, although rarely, be at the will of the individual, so that he can recall them at pleasure; they may have one character to-day, and another to-morrow; in some cases, in which the sense of sight is hallucinated, closing the eyes will dispel the affection. Sometimes a patient hears sounds only through one ear, or sees imaginary objects only through one eye, the other eye and ear being unaffected.* Again, the number of voices heard will vary; in some instances an animated dialogue is sustained with all the force of reality; in others two or more distinct voices are recognised by the patient; and a linguist will occasionally hear voices in different languages. It is of the utmost importance to ascertain the *character* of the hallucinations; for on this will often depend the danger which attaches to it, and the necessity for the deprivation of the patient's liberty. It is obvious that "Delusional Insanity, of a destructive character" (p. 54) must demand early recognition and care; that a man who hears a voice commanding him to commit an act of violence towards others, or to destroy himself,

* The reader will find a summary of the principal features which characterise hallucination in the 'Bibliothèque du Médecin-Praticien,' tome ix.

requires strict watching or confinement; whilst a man who only hears a voice proclaiming his rank and wealth may be harmless, and require no restraint whatever. Regarding the subject from a medico-legal point of view, an inquiry into the existence of hallucinations will often afford a key, as Brierre de Boismont has well observed, to numberless determinations, singularities, and actions, totally unexplained by, and at variance with, the character, the manners, and the habits of the individual.

Illusions.—These have already been distinguished from hallucinations, by the existence, in the former, of something internal or external to the body, which is the basis of the illusion. In the most perfect state of mental health, we are subject to certain illusions; but here, as Esquirol observes, "Reason dissipates them. A square tower, seen from a distance, appears round; but if we approach it, the error is rectified. When we travel among mountains, we often mistake them for clouds. Attention immediately corrects this error. To one in a boat, the shore appears to move. Reflection immediately corrects this illusion. Hypochondriacs have illusions which spring from internal sensations. These persons deceive themselves, and have an illusion respecting the intensity of their sufferings, and the danger of losing their life. But they never attribute these misfortunes to causes that are repugnant to reason. They always exercise sound reason, unless Melancholia is complicated with Hypochondriasis."

Illusions, like hallucinations, may affect any one of the senses separately, or all of them. Those of *sight* are the most frequent; those of *hearing* are the next in order; but, some observers state that they are equally as common as the former.

A gentleman, to whom we may here refer, afforded an interesting example of visual illusion.

Every person he saw at L—— (in Yorkshire), where he lived, presented a different appearance from the reality. His friends, who resided in another town in the same county, removed him to their own home. As they travelled, they endeavoured to convince him of the absurdity of his illusions. He was not in the least shaken in his belief, but at last said, "Well, if the people at S—— look like the people of L——, I will believe I am under a delusion." As he entered the town of S——, he anxiously watched for the first face, on seeing which he acknowledged that it presented the same strange appearance that he had seen at L——. He therefore candidly admitted that he was deceived. The fact of his being open to conviction shows that the disease was not far advanced. After this he remained well for several years when he had an attack of Acute Mania.

The sense of *touch* often suffers.

With hypochondriacal patients, we observe endless varieties of false sensations, or visceral illusions, as they are sometimes called. It is often very difficult, and sometimes quite impossible, as we observed before, to draw the line between some of these illusions and false conceptions. Frequently, they are united in the same case. If, however, the nerves of sensation convey to the mind exaggerated impressions regarding any part of the body, it constitutes an illusion; and, if it is manifestly absurd, and the patient's reason cannot perceive that it is an illusion, he is also of unsound mind.

Several of the examples already cited, when speaking of delusion proper, are usually regarded as hypochondriacal illusions. To this division the following case would, by some writers, be referred; but, however hypochondriacal the patient was, his particular delusion was rather a false notion than perverted sensation. The melancholy under which he laboured was father to the thought. If electro-biologists can make a man disbelieve his own personality, in certain susceptible states, and fancy himself metamorphosed into some other person, by the law of suggestion, as explained by Dr. Carpenter, cannot melancholy feelings suggest such ideas or beliefs as these?

"A young hypochondriac," relates Arnold, "had a strong imagination that he was dead, and did not only abstain from meat and drink, but importuned his parents that he might be carried to his grave and buried, before his flesh was quite putrefied. By the counsel of physicians, he was wrapped in a winding-sheet, laid upon a bier, and so carried on men's shoulders towards the church; but, on the way, two or three plesaant fellows (hired for that purpose), meeting the hearse, demanded aloud of them that followed it, whose body it was that was then coffined and carried to burial? They said it was a young man's, and told his name. Surely, replied one of them, the world is well rid of him, for he was a man of a very bad and vicious life, and his friends have cause to rejoice that he hath ended his days thus, rather than at the gallows. The young man hearing this, and not being able to bear such injury, roused himself up on the bier, and told them they were wicked men to do him that wrong he had never deserved; that, if he were alive again, he would teach them to speak better of the dead! But they proceeding to defame him, and to give him much more disgraceful and contemptuous language, he, not able to suffer it, leaped from the bier and fell about their ears with such rage and fury, that he ceased not buffeting them till quite wearied." The result of this excitement was perfect recovery within a few days.

These observations upon hallucinations and illusions may be concluded by succinctly stating the points of real practical im-

portance in regard to them. Either may exist (the former rarely) in persons of sound mind; but in that case they are discredited, in consequence of the exercise of reason and observation, or, if credited, they do not influence the actions. They are sometimes with difficulty distinguished the one from the other, and indeed often merge into or replace each other; but, still they ought to be distinguished by the points of difference already laid down. Either may be the cause of violent acts, and terminate in murder, or suicide; their discovery in criminal Insanity is, therefore, most important. Hallucinations are most frequently met with in Monomania and Melancholia, but are not uncommon in Mania. We have several times observed them present with great vividness in incipient senile Dementia. In children we sometimes see remarkable examples of hallucinations; especially, so far as our experience goes, of sight. Illusions are not so common in Monomania and Melancholia as are hallucinations, being more frequent in Mania. The senses of sight and hearing are more liable to hallucinations, than those of touch, taste, and smell.

Prognosis (see p. 145).—The existence of delusions or hallucinations adds to the danger and unfavorable character of Mania and Melancholia.

On referring to the classification of Insanity at p. 54 the reader will observe that next in order to Delusional Insanity, we give Emotional Insanity, whether manifested as Melancholia Simplex, Partial Exaltation, or Moral Insanity *proper* (synonymous with Emotional ditto). To be consistent with this arrangement, we ought rigidly to exclude from the description of these states all forms of Insanity complicated with marked disorder of the intellect. For the convenience of the reader, however, we shall include, while carefully distinguishing, these cases under the same section. Thus, under Melancholia we shall treat it as a whole instead of restricting ourselves to the purely emotional form of the disorder. So of Homicidal and Suicidal Insanity, &c. The reader will, however, perceive that while the following sections up to Mania include many morbid states in which the intellect is disordered, they differ from the preceding ones in including Emotional Insanity.

SECTION IV.—Melancholia.

Synonyms.—Μελαγχολια (Gr., from μελας, black, and χολη, bile); *Melancholia* (Lat.); *Schwermuth, trübsinn, tiefsinn* (Ger.); *Mélancolie* (Fr.); *Phrenalgia* (Guislain); *Tristimania* (Rush); *Sadness* and *Melancholy* of English writers.

Esquirol suggested the word *lypemania* (λυπεω, to cause sadness, and μανια) in the place of melancholia, but added that he should employ the two words indifferently.

Definition.—The signification attached to this term by the ancients, and by modern writers prior to Esquirol, has been pointed out when speaking of intellectual Monomania. (See p. 203).

Psychical Symptoms.—The invasion of Melancholy, as of other forms of mental disorder, is variously characterised in different cases. It may be sudden, as when the immediate consequence of grief; or gradual and long threatened by premonitory symptoms, and, perhaps, the mere exaggeration of the patient's natural character; or, lastly, it may be altogether secondary to other forms of Insanity, especially Mania.

The first mode of invasion is, compared with the two latter, rare. The incubation of Melancholy is generally prolonged, and sufficiently obvious. The subject of it loses his relish for existence, he feels depressed and unequal to the ordinary duties which call him into public life, and in the domestic circle he is more silent than in health, and seeks entire solitude. In the words of Dryden—

> "He makes his heart a prey to black despair;
> He eats not, drinks not, sleeps not, has no use
> Of anything but thought; or, if he talks,
> 'Tis to himself."

Thus, while cheerless, moody, and taciturn, he is not idle in mind, for he unceasingly revolves his own desperate condition, which he regards as worse than that of any other person; although, with characteristic inconsistency, he may regard it as good enough for a wretch like him; he magnifies every circumstance which can be regarded as of unfavorable omen, and is unable to realise those which are favorable; he misconstrues every observation addressed to him, and if he read, every sentence of a gloomy nature appears intended specially for him.

As the disorder advances, the melancholiac, ever fearful, is constantly anticipating some dire catastrophe. He casts a continual gloom around him by his groans or sighs, and will frequently sit from morning to night deploring his unhappy lot; and when night comes, sleep, instead of being to him "balmy," or "tired Nature's sweet restorer," is probably clothed in sadness, and only the signal of an aggravation of his disorder. A patient now under care, but not requiring the restraint of an asylum, wakes again and again in the night, oppressed with the most terrible feelings of distress, to which she looks forward in the day with the greatest apprehension. These nocturnal attacks generally last about half an hour, when they subside, and are succeeded by comparative calm. But the early morning is generally the occasion for increased mental suffering. One reason why melancholiacs are almost invariably worse on waking, is probably to be found in the unwonted activity and force which attend all operations of the mind at this period. Every one must have observed the vividness with which suggestions occur to the mind, and ideas irresistibly succeed each other, when conscious, although involuntary cerebration is then first put in action. Authors have owed some of their choicest thoughts and most felicitous expressions to this period of the day. With the melancholiac, his most vivid imaginations happen to be of the sombre class, and, becoming intense after the rest which the brain has had during the night, tyrannise over the feebly opposing power of the will and judgment.

The increased susceptibility of the emotions in Melancholia renders its subjects, in the *early* stage, easily moved to tears by trivial circumstances. The consolations offered by friends are refused as the storm blackens; or, at least, are disregarded. It is generally futile to attempt to argue a melancholy patient out of his gloomy forebodings. A patient of the writer's, while admitting that a thousand things she had fancied from time to time had never come to pass, and that in these she had been mistaken, would always add in regard to some fresh foreboding, "I am sure *this* is true." Referring to a person who had had similar notions, she would say, "*His* were fanciful, *mine* are real."

All the symptoms now described, with occasional remissions, which generally deceive the patient's friends, have become so aggravated, and he is, to the most inexperienced, so decidedly insane, that he is at last placed under care. Occasionally, he is

a volunteer, and seeks the tranquillity of an asylum himself. When he is aware of the absurdity of his fears, though unable to escape them, the disorder is termed by Esquirol *reasoning* Melancholia (lypémanie raisonnante).

The association in the same character of a tendency to gloom, and an acute perception of, and love for, the ridiculous, is often remarkably exhibited in melancholy lunatics. The author of John Gilpin is a familiar example. Again, the actor, Carlini, consulted a physician to whom he was unknown, on account of the attacks of profound melancholy to which he was subject. The doctor, among other things, recommended the diversion of the Italian comedy; "for," said he, "your distemper must be rooted indeed, if the acting of the *lively Carlini* does not remove it." "Alas!" ejaculated the miserable patient, "I am the *very Carlini* whom you recommend me to see; and while I am capable of filling Paris with mirth and laughter, I am myself the dejected victim of melancholy and chagrin!" (Perfect's 'Annals of Insanity,' p. 404.)

Such are the most prominent symptoms of Melancholia. An Athenian painter of celebrity, upon whose moral nature the fine arts do not, however, appear to have exercised a very humanising influence, purchased an old man, a captive brought home from the wars, and put him to torture, in order that he might be the better able to delineate the pains and passions of his Prometheus, which he was then engaged in painting. Upon this, quaint old Burton remarks, in his 'Anatomy of Melancholy,' "I need not be so barbarous, inhuman, curious, or cruel for this purpose, as to torture any poor melancholy man; their symptoms are so plain, obvious, and familiar, there needs no such accurate observation or far-fetched object; they delineate themselves; they voluntarily betray themselves; they are too frequent in all places; I meet them still as I go; they cannot conceal it, their grievances are too well known, I need not seek far to describe them." In short, the psychical symptoms of Melancholia are so well pronounced when present, and hence so readily recognised, that they do not require to be very minutely described.

Patients labouring under Melancholia may, however, indicate their distress of mind by very different external signs.

Some pour forth their grief in excited tones, and manifest a large amount of activity and restlessness.

Others are altogether depressed and silent.

The latter may, in accordance with the views of some authors, be subdivided into those melancholiacs whose apathy results from simple depression, and those in whom it is associated with decided inaction of the intellectual faculties—the *melancholia attonita* of some writers. If this condition be still further aggravated—if there be a complete torpor of the mental functions—we then have the condition termed by some foreign writers *stupidité*, which has already been referred to in a previous section. The *mélancolie avec stupeur* of Baillarger comprises both these varieties of Melancholy. We know of the following case:

A. B—, a young lady, sustained a disappointment of the affections. Dyspepsia and obstinate costiveness followed. Symptoms of mental depression then appeared, succeeded by refusal to take food, and an attempt at self-destruction. The case then assumed the character of *mélancolie avec stupeur*, profound melancholy accompanied with a state of semi-stupor. The prolonged warm bath, continued for several months, restored this patient to health. The unfavorable symptoms were always disposed to return on omitting the bath. After her recovery, which was complete, she distinctly remembered the condition in which she had been.

M. Dagonet, in the March and subsequent numbers of the 'Annales,' 1872, contributes several papers on *stupidité* or *stupémanie*, and regards it as most frequently the result of the acutest forms of Melancholia. He gives two forms, one in some sort acute, in which there are sensorial illusions and painful delusions; the other passive, marked by a total want of expression in the features, while in the former the facial muscles are contracted and the features concentrated, and the condition is allied to Ecstasy and Catalepsy. He gives one intermittent case of stupor which extended over several years, the attacks lasting five or six weeks and the intervals of lucidity three. In his own experience cases of *stupidité* ordinarily recover. He observes that they must not be confounded with cases in which the patient preserves an obstinate silence, not because he cannot but will not speak, as when he has a delusion that he is persecuted by the police, or with cases in which patients believe they are commanded by a higher power not to speak or move. M. Dagonet gives several interesting cases caused by the events of the Franco-Prussian war.

Physical Symptoms.—Among the earliest (partly psychical) are insomnia and disturbed dreams. We know cases in which the

dread of falling asleep is intensely agonising, from the anticipation of dreaming, and awaking with horrible sensations. The digestive organs are frequently deranged; the tongue being unnaturally red or loaded, and the substratum firm, while there is a marked fulness and tenderness at the epigastrium, and the alvine evacuations are deficient in bile. As Conolly observes, melancholiacs will refer a sense of terror to the epigastrium, accompanying a feeling of having done wrong without knowing what. The tongue is in other cases flabby, very pale, and indented at the edges; a fixed dull pain, or an ill-defined sense of oppression in the head, is also often complained of. The pulse is not usually accelerated, but slow and compressible. The urine is often pale, sometimes high-coloured, and depositing lithates. The skin varies; usually harsh, but not unfrequently moist and clammy or greasy. (See Sphygmographic tracings *postea.*)

In women the uterine functions are more or less disordered, and are suspended in a large number of cases. In men the reproductive instinct is usually in abeyance.

"The physiognomy is fixed and changeless; but the muscles of the face are in a state of convulsive tension, and express sadness, fear, and terror; the eyes are motionless, and directed either towards the earth or some distant point; and the look is askance, uneasy, and suspicious" (Esquirol).

Sometimes Melancholia induces a passive attitude; the arms hang loose at the side, the hands are open, and the muscular system is relaxed altogether; at other times, grief intensifies the action of the muscles; the patient's arms are rigidly flexed; the hands clasped and pressed against his chest, or he wrings them in all the bitterness of despair.

Melancholia may be simple; complicated; acute; chronic; remittent; or intermittent.

I. Simple form. There is here no disorder of the intellect, strictly speaking; no delusion or hallucination. It is the *mélancolie sans delire* of Etmuller and Guislain; the *lypémanie raisonnante* of Esquirol; and the *melancholia simplex* of Heinroth.

Dr. Prichard observes, "A considerable proportion among the most striking instances of Moral Insanity are those in which *a tendency to gloom or sorrow is the predominant feature.* When this habitude of mind is natural to the individual, and comparatively slight, it does not constitute madness. But there is

a degree of this affection which certainly constitutes disease of mind, and that disease exists without any illusion impressed upon the understanding. The faculty of reason is not manifestly impaired, but a constant feeling of gloom and sadness clouds all the prospects of life." ('Treatise on Insanity,' p. 18.)

"I meet every day," observes Guislain, "with Melancholiacs who do not exhibit any disorder in their ideas, or lesion of the judgment." "Melancholia is exclusively an exaggeration of the affective sentiments; it is, in all the force of its signification, a *gemüthskrankheit*, in the sense in which the word is employed by German psychologists. It is a pathological emotion, a sadness, a chagrin, a fear or dread, and nothing more. It is not a condition which sensibly weakens the conceptive faculties." ('Leçons Orales,' vol. i, p. 112.)

Simple Melancholy, then, as is so emphatically laid down by these writers, may exist in association with normal action of the intellectual functions, and is, therefore, fairly illustrative of what Prichard called Moral Insanity. Here, however, the doctrine is not fraught with consequences so important to society, nor does it interfere with the prejudices of mankind to such an extent, as when applied to the diseased workings of the propensities common to us and to the lower animals. And yet if it be admitted (and every writer of authority does admit) that a profound melancholy, for which the patient is irresponsible, is not inconsistent with the normal operations of the intellect, we are called upon to admit no *new* doctrine in mental pathology, when asked to believe that a like condition of the intelligence may coexist with a homicidal propensity, in however small a proportion of cases this may actually occur.

There is occasionally a very marked physical disturbance immediately preceding attacks of mental depression. We have a patient under treatment who describes the sequence of her sensations with singular minuteness: the first in the series being a sense of intense oppression at the heart, which appears to her to extend gradually upwards, and is followed by extreme dejection of mind. It is to such cases that the Professor of Ghent refers when he says, "There is a melancholy which I call *anxious* or *pneumo-mélancolie*, on account of the disturbance of the thoracic organs. The distress which the patient suffers sometimes resembles attacks of suffocation. Occasionally this condition is

associated with hysterical symptoms, but generally this is not the case. It is sometimes preceded by a painful feeling, which the patient refers to the region of the heart. This state may last two or three months before decided mental disorder is manifest. The patient loses his sleep, he is harassed with gloomy ideas; his features become altered; anguish, accompanied by vague forebodings, announces the *début* of the malady." He adds, "This variety of Melancholy scarcely passes, in some cases, beyond the character of Moral Insanity. It is then free from all disturbance of the intellectual powers; so that the patient unceasingly complains to those who enjoy his confidence, that he is afraid he will lose his mind. I have known patients who have lived two or three years in this condition, without having ever suffered the least derangement of the understanding, still less of the ideas. . . . It may be the precursor of an attack of epilepsy; it constitutes the prodromic stage of Suicidal Insanity. It is not uncommon in females at the climacteric period." It is the *precordialangst* of Dr. Flemming.

Nostalgia.—(νοστος, return; αλγος, sadness). Home-sickness may sometimes be a variety of simple Melancholia, but it often extends further. In six years, 1820-6, no fewer than ninety-seven soldiers in the French army fell a sacrifice to this disease. Young men and those from the country are more liable to be thus attacked than older men, and those accustomed to city life. The inhabitants of mountain districts—the Highlander and the Swiss—are observed readily to droop and become nostalgic when abroad. Gavin, however, quotes from Dunlop the fact, that the only two examples of Nostalgia which occurred to him were a recruit, a country lad from the fens of Lincolnshire, who died of the disease; and a London pickpocket, whom he saw in the hulks at Sheerness.

In a case we recently met with, the patient was a Spaniard, and died very unexpectedly with cerebral symptoms. His previous mental condition was characterised by apathy and a desire to return home, without any very definite indications of physical disease.

Probably, no one had greater opportunities of observing this disease than the celebrated Larrey. He was decidedly of opinion, from the observation of a large number of cases, that the mental faculties in nostalgic patients are the first to undergo a change. Unquestionable aberration of mind was present in the cases which

he has recorded. This was evidenced by the great exaltation of the imaginative faculty. The prospect of their native home presented itself to their mind's eye, like the *fata morgana* to travellers in the desert, depicted in the extravagant and delusive hues which a morbid fancy alone could suggest. All this is often in violent contrast to the rude, uncivilised, and poverty-stricken home which their better reason would represent as the sober reality. This state of cerebral excitement is accompanied, at the commencement of the disorder, by corresponding physical symptoms. The heat of the head is increased—the pulse accelerated; there is redness of the conjunctivæ: and unusual movements of the patient may frequently be observed—perhaps occasioned by the uncertain pains in various parts of the body, of which he usually complains. The bowels are constipated; there is a general feeling of oppression and weariness, indicated by the patient frequently stretching himself and sighing. There is an inability to fix the attention, and the conversation is, in consequence, somewhat unconnected.

The symptoms which succeed are a sense of weight, and pain in all the viscera. The deficiency of nervous power produces a torpid and partially paralysed condition of the stomach and diaphragm. The symptoms of gastritis, or gastro-enteritis, which immediately supervene, M. Larrey considers as but sequelæ. The phenomena next presented, as the febrile symptoms increase, are those which we ordinarily observe when there is great derangement of the digestive functions, accompanied by fever.

The prostration of strength which marks what may be called the third period of the disease is very great. The mental depression keeps pace with the decline of bodily strength, and is often manifested by weeping, sighing, or groaning. A symptom resembling that of hydrophobia is sometimes present,—namely, great aversion to the sight of clear liquids, as water, together with the usual disgust of food. A propensity to suicide is not unfrequently manifested when the debility becomes extreme; paralysis is also common; but, generally, death is the result of a gradual exhaustion of the vital powers.

M. Larrey witnessed, during the retreat from Moscow, a large number of his comrades perish in a similar condition of mind and body, from the effects of intense cold.

It has been frequently remarked, that the inhabitants of cold

and moist, or of mountainous countries, are the most liable to the moral impressions which are the origin of Nostalgia. The Dutch are a notable example among the inhabitants of a cold and moist, and the Swiss among those of a mountainous climate. Larrey found, that the troops enlisted from these two nations were precisely those which, during the disastrous campaign of Moscow and the cruel vicissitudes experienced, afforded the greatest number of victims to that morbid cerebral condition, so similar in its symptoms to Nostalgia. It was observed, on the other hand, that the army of Napoleon, which served in Egypt, did not produce a single case exhibiting the least symptom of nostalgia. On the contrary, the soldiers became exceedingly attached to the climate, so as almost to consider it a second home, and, like the Israelites of old, there was not one among them who did not sincerely regret leaving the land of Egypt.

The military hospital received many patients from among the Swiss Royal Guard, who were sent thither for undefined complaints which speedily merged into decided Nostalgia; and this disorder seemed most prevalent during the extreme height of the barometer.

Larrey gives the case of a soldier in the first Swiss regiment. His state did not appear alarming to Dr. Cornac, his physician, when he first entered the fever wards. One day, however, when Larrey visited him, he was informed that the unfortunate man had committed suicide, and, hastening to his assistance, found him weltering in his blood, and at the point of death, from a large wound in the region of the heart, inflicted with a knife. At the *post-mortem* examination, on sawing open the skull, M. Larrey was surprised to find a layer of lymph and purulent matter between the dura mater and the pia mater, which covered the entire circumference of the brain, and involved also the arachnoid membrane. On the cortical substance of the brain, especially towards the anterior lobes, and at the superior edges of the hemispheres, many points of suppuration were observed. The sinuses of the dura mater, as well as all the vessels of the head, were gorged with black blood; the ventricles contained a rather large quantity of serum; the base of the cerebrum and cerebellum alone remained sound.

From the facts of this case, we may, with Larrey, draw the conclusion, that a deep moral sentiment, the desire to revisit his native country, was the cause which gradually developed the cerebral disorder preceding the act of suicide in this Swiss—an act which may be regarded as independent of the patient's volition.

In a similar case, opening the skull and the vertebral canal exposed to view a layer of lymph, which covered the hemispheres of the brain; it was formed beneath the dura mater; yellowish points of suppuration penetrated, very deeply, into the anterior lobes of this organ; and a considerable quantity of reddish serum filled the lateral ventricles. The encephalon itself was hardened, and the membranes of the spinal cord inflamed.

In another patient, who died of the same disease, similar morbid appearances were discovered.

There are misanthropical and love-sick forms of Melancholy, which may here be enumerated, but do not require any special description. The latter rarely attains to a sufficient degree of intensity to render the restraint of an asylum necessary. Guislain estimates its frequency at one in four hundred admissions at the institution at Ghent. Misanthropical Melancholy rarely presents itself to our notice in an uncomplicated form, so severe as to constitute mental disease; but, as has been justly observed, an aversion to human society, a desire for solitude, and a repugnance to the pleasures of life, constitute the very essence of all Melancholy. ('Leçons Orales,' vol. i, p. 125.)

Hypochondriacal Melancholy is by Guislain classed under the head of Melancholy without disorder of the intellect, that is, simple Melancholia. Griesinger regards it in the same light, as essentially a *folie raisonnante mélancolique*. It is, however, so very generally accompanied by decided delusions, that it will be more convenient to consider it under the complex form.

II. Complicated Melancholia,* or Melancholy with decided disturbance of the intellectual faculties. (*Mélancolie avec délire, la mélancolie délirante* of French writers.)—This we believe to be more common than the simple form. Guislain, however, states that in his experience they are of equal frequency. About 13 per cent. of the admissions into his asylum at Ghent were examples of each form.

Hypochondriacal Melancholy.—Much confusion exists in regard to the boundary line between what is popularly called Hypochondriasis and genuine mental disease; and in truth, this confusion arises, in great measure, from the inexact limit which separates the one from the other in nature. In a particular case, it is often impossible to determine the precise period of the supervention of cerebro-mental disease. Guislain (op. cit., vol. i, p. 119) goes further than most writers, in including hypochondriacal symptoms under Insanity. "Hypochondriasis," he observes, "is a disorder of the affective faculties—most certainly an alienation. This is proved by the affection being transformed into other mental diseases." He divides it into two classes—*bodily* and

* Although properly falling under "Delusional Insanity of a melancholy character," it is more convenient to describe it in this place (see p. 222).

mental. Patients afflicted with the former "believe themselves invalids and in suffering: they believe they have every infirmity and every complaint. They experience all the diseases which they hear mentioned. They apply to doctors, to charlatans, to druggists, to quacks, in order to have the disease explained to them, and to obtain remedies, which they generally take with avidity." He estimates that two patients out of every hundred are admitted at Ghent, in consequence of this condition—of course, in an advanced stage.

In an ordinary case of Hypochondriasis under the writer's care, the patient, a married woman, was constantly wishing him to prescribe for some fresh symptoms of an alarming character. Among his notes of this case he finds the following:—"Subject for seven years to attacks of pain in different parts of the body, especially the abdomen; palpitation, vertigo, &c. Is now fifty-eight. No family. Has the most absurd apprehensions. Is always worst in the morning; not when she wakes, but at about seven. Improves as the day advances. On one occasion she seemed like a person under the influence of strychnia; was relieved by calomel and opium. Is constantly dwelling on her state. Great dread of death. Is frequently in bed for a day or two, apparently at death's door, but without a single morbid physical symptom of real importance; not materially relieved by valerianate of zinc." Such cases, more or less marked, abound in the experience of every physician. When occurring in the female, they generally assume a more decidedly hysterical form. In another case, that of a gentleman, the patient was firmly convinced that the testicles had wasted away, and brooded over the supposed loss of reproductive power. This is a very common notion with hypochondriacal men.

To comprehend clearly what relation Hypochondriasis bears to Melancholy, and the distinction which is to be drawn between the former as employed in its loose, popular signification, and those closely allied forms of indisputable mental disease now under consideration, it will be convenient to consider the symptoms of Hypochondriasis, and the sense in which the word has been employed.

Authors have divided Hypochondriasis into three stages; the following are, for the most part, adopted by M. Dubois, in his work specially devoted to the investigation of this disorder.

1. Concentration of all the patient's attention upon his own maladies. Mental disturbance, excited by the most trifling sensations. Curable.

2. Anxiety of mind increased; and constant fear of death harasses the patient. If the digestive organs are more particularly the seat of complaint, he suffers from gastralgia, constipation,

dysphagia, &c.; if the organs of circulation, palpitation, dyspnœa, throbbings of the arteries; if the sensations are general, inertia, languor, sweats, and flying pains. Often, also, the patient has special delusions and illusions respecting his physical condition. Recovery possible.

3. Aggravation of all the symptoms, chronic inflammations of various viscera, and structural changes, especially of the digestive system. Next, in frequency, are affections of the thoracic organs. Symptoms sufficiently decided to make it certain that there are serious organic lesions. Recovery almost hopeless.

The division into the preceding stages is somewhat arbitrary; the first and second may, however, be conveniently distinguished from the third, for it is important that the student should remember, that Hypochondriasis may be associated with actual and fatal diseases, however much the sensations may be exaggerated by the patient. On clearly distinguishing between these stages of the disorder—that in which there is, and that in which there is not, organic disease—his success in prognosis will depend.*

It will be seen from the above how closely the symptoms *essential* to the disease border on Insanity; and how some of those enumerated by authors, as of frequent occurrence, are inseparable

* Hypochondriasis is thus graphically described by Sydenham:—"Nor are the unhappy sufferers from this disease affected and shaken in the body only—shaken so, as like a ruined building to appear upon the eve of falling—but their mind is sickened more than the body. An incurable despair is so thoroughly the nature of the disease, that the very slightest word of hope creates anger. The patients believe that they have to suffer all the evils that can befall humanity; all the troubles that the world can supply. They have melancholy forebodings. They brood over trifles, cherishing them in their anxious and unquiet bosoms. Fear, anger, jealousy, suspicion, and the worst passions of the mind, arise without cause. Joy, hope and cheerfulness, if they find place at all in their spirits, find it at intervals, 'few and far between,' and then take leave quickly. In these, as in the painful feelings, there is no moderation. All is caprice. They love, without measure, those whom they will soon hate without reason. Now they will do this—now that; ever receding from their purpose. All that they see in their dreams are funerals and shadows of departed friends. Thus, they are racked both in mind and body, even as if life were a purgatory, wherein they expiated and paid the penalty of crimes committed in a previous state. In all this, it is neither the maniac nor the madman that we write about,—saving and excepting the hallucinations aforesaid; those who thus suffer are persons of prudent judgment,—persons who, in the profundity of their meditations and the wisdom of their speech, far surpass those whose minds have never been excited by such stimuli." ('Epistle Dedicatory,' section 75.)

from unsoundness of mind. Thus, we have "often special delusions and illusions regarding the patient's physical condition," "an incurable despair," &c. Hence it is evident that authors have described, under the same name, a disease which, according as it assumes a mild or a severe form, may present very different aspects when viewed from a medico-legal standpoint; and which, in its former phase, may be regarded as simple Hypochondriasis; but in the latter, may very properly be termed Hypochondriacal Melancholy, or Melancholy the prominent symptoms of which are of a hypochondriacal nature. To ascertain, in particular cases, when the one begins and the other ends is doubtless often a problem, the solution of which will tax all the acuteness of the psychologist; but the difficulty is not, perhaps, greater than that of deciding, in some cases, where what is popularly understood as Melancholy ends, and the genuine Melancholy of psychologists begins.

Hypochondriasis may certainly exist with the latter, and of course Melancholia may be present without Hypochondriasis; but the two are frequently combined; and for this combined morbid condition we do not know that there is any better phrase than Hypochondriacal Melancholy. In simple Hypochondriasis, the patient fears, without any sufficient reason, that he will soon die in consequence of his supposed complaints; but when Insanity more decidedly supervenes, he may fear that he will be poisoned, and to avoid this, may even terminate his own life! Again, in simple Hypochondriasis, the patient exaggerates the importance of a trifling, but probably an actual, ailment. When, however, there is well-marked cerebro-mental disease, he will invent the most absurd and impossible maladies that can be conceived, and become possessed with delusions which will leave no doubt as to his Insanity.

Thus, a patient, to whose case we shall shortly refer, gravely attributed the eructations from which he suffered, to the three frogs mentioned in the Revelation of St. John.

While, however, as in this instance, the character and grossness of the patient's conviction will lead us to decide upon his Insanity; in others, this opinion may be formed from collateral circumstances. Thus, it may happen that, in two cases, the error under which the patient labours will be precisely the same, and yet we may be justified in arriving at the conclusion that,

in the one, the false conviction is, and in the other it is not, the result of cerebral disease; this opinion being formed independently of the character of the delusion, from a consideration of various facts, proving the existence of cerebro-mental disorder.

The case of Buranelli, who was executed for murder in 1855, was a remarkable illustration of the ill-defined boundary line which often separates these affections, and of the difficulty which exists when this occurs, and when the case involves the question of criminal responsibility, of deciding upon the existence of cerebro-mental disease. A commentary upon this important trial may be advantageously read in the 'Asylum Journal of Mental Science,' July, 1855.

M. Michèa, who has written a treatise on Hypochondriasis, concludes that this affection must be regarded as without the pale of Insanity, so long as the depression of mind is not the consequence of a delusion (*idée fixe*), so long as it has not for its exclusive object an extreme fear of death, and so long as it yields promptly to consolations offered, and to reason.

Many of the observations now made in regard to the relation which Hypochondriasis, in a simple form, bears to Hypochondriasis complicated with decided cerebro-mental disease, apply to Hysteria when regarded from the same point of view. Hysteria is not in ordinary cases to be regarded as Insanity, but there is a state of mind which may properly be designated Hysterical Insanity, in which aggravated Hysteria constitutes a prominent symptom; and which must be distinguished from simple Hysteria either by intensity, or by its complication with actual sexual delusions or excitement.

It may here be observed, that Hypochondriasis and Hysteria have been regarded as identical diseases by Sydenham, Boerhaave, and other medical writers. They have been distinguished, however, by Cullen, Pinel, and others; and there are, undoubtedly, many distinguishing signs. Thus, while Hypochondriasis affects both sexes, but principally the male,* Hysteria affects the female

* "I do not know whether Hysterical Insanity has ever been observed in men." (*Griesinger*). He distinguishes two forms—*acute* attacks of delirium and excitement even to developed Mania, manifested by singing, vociferation, cursing, &c.; and a *chronic* form, appearing either in the form of Melancholia or Mania. He adds that Hysterical Insanity passes more frequently into Dementia than one might expect.

sex almost exclusively; while the mode of invasion of the one is slow and gradual, that of the other is characterised by sudden attacks; while the former is marked by the symptoms already described, there are usually present in the latter, the globus hystericus, a facial expression better known than described, and if in an aggravated form, attacks of partial or complete unconsciousness, convulsions, spasms, and perhaps lock-jaw.

Some remarkable instances are on record, in which intense mental emotion has been followed by changes in particular structures, in relation to which the emotion was excited; and which would seem to suggest the probable course which some cases, at least, of Hysteria and Hypochondriasis may have taken. As some of these may seem too remarkable to be easily credited, we will refer to a case well known to ourselves,—that of a highly respectable and most intelligent lady, in which this phenomenon was exhibited.

This lady was one day walking past a public Institution, and observed a child, in whom she was particularly interested, coming out through an iron gate. She saw that he let go the gate after opening it, and that it seemed likely to close upon him, and concluded that it would do so with such force as to crush his ankle; however, this did not happen. "It was impossible," she says, "by word or act, to be quick enough to meet the supposed emergency; and, in fact, I found I could not move, for such intense pain came on in the ankle corresponding to the one which I thought the boy would have injured, that I could only put my hand on it to lessen its extreme painfulness. I am sure I did not move so as to strain or sprain it. The walk home —a distance of about a quarter of a mile—was very laborious, and, on taking off my stocking, I found a circle round the ankle, as if it had been painted with red-currant juice, with a large spot of the same on the outer part. By morning, the whole foot was inflamed, and I was a prisoner to my bed for many days."

Now, if, as in this instance, a powerful emotion, directed into a certain channel, can result in such marked physical changes, without the agency of any local cause, it is highly probable that, in some instances, the firm conviction of an individual (it may, or may not be, the consequence of cerebral disease), that he has, or is about to have, some particular disorder, and the constantly dwelling upon and dreading it, does produce, through trophic nerves, the very disorder upon which his apprehensions are concentrated.

Melancholy may be complicated with many other delusions, besides those we have considered in connexion with Hypochondriasis. Some of these have unavoidably attracted our attention when speaking of Delusional Insanity, because many insane persons

have hallucinations and definite delusions of a gloomy character, in regard to what is going to happen to them. Doubtless, in the large majority of cases, the delusion derives its tone entirely from the disorder of the affective faculties. Be this, however, as it may, the patient no longer suffers from simple Melancholia; the disease is compound; the integrity of the understanding is impaired.

Religious Melancholy (*Melancolie religieuse, Monomanie religieuse* of French writers) may, or may not, be associated with disturbance of the intellectual faculties. As it not unfrequently is so, it may properly be considered in this place. But it may be well to observe, that Dr. Prichard draws thence some of his illustrations of "Moral Insanity."

Many patients become victims to the most gloomy fancies, and the conscience becomes so morbidly acute, that—

> "Night-riding incubi
> Troubling the fantasy,
> All dire illusions
> Causing confusions;
> Figments heretical,
> Scruples fantastical,
> Doubts diabolical,"—

are incessantly presented to the mind, and life is rendered intolerable by perpetual misgivings as to the propriety of the most trifling circumstance; or, the patient may be unceasingly engaged in devotional exercises. An Irish priest in the Bicêtre kneeled so constantly, that his knees were almost completely anchylosed, the skin also becoming as tough as leather.

Plutarch has given a graphic sketch of the condition of those labouring under Religious Melancholia in his day, or the superstitious (δεισιδαίμονίαι), as he terms them. It would be difficult to apply more appropriate language for the present purpose. "To such a man, every little evil is magnified by the scaring spectres of his anxiety. He looks on himself as a man whom the gods hate and pursue with their anger. A far worse lot is before him; he dares not employ any means of averting or of remedying the evil, lest he be found fighting against the gods. The physician, the consoling friend, are driven away. 'Leave me,' says the wretched man,—'me the impious, the accursed, hated of the gods, to suffer my punishment.' He sits out of doors,

wrapped in sackcloth or in filthy rags. Ever and anon he rolls himself, naked, in the dirt, confessing aloud this and that sin. He has eaten or drunk something wrong; he has gone some way or other which the Divine Being did not approve of. The festivals in honour of the gods give no pleasure to him, but fill him rather with fear and affright. He proves, in his own case, the saying of Pythagoras to be false that we are happiest when we approach the gods, for it is just then that he is most wretched. Temples and altars are places of refuge for the persecuted; but where all others find deliverance from their fears, there this wretched man most fears and trembles. Asleep or awake, he is haunted alike by the spectres of his anxiety. Awake, he makes no use of his reason; and asleep, he enjoys no respite from his alarms. His reason always slumbers; his fears are always awake. Nowhere can he find an escape from his imaginary terrors."

A case possessing some points of interest fell under the writer's notice several years ago,—one of Religious Melancholia (with, as it afterwards proved, an absorbing delusion), accompanied by symptoms of a trance-like or cataleptic character.

A female servant, under twenty, had only been in service two days; had not been considered out of health; catamenia regular. She, however, herself observed that her tongue was very much furred, and pointed it out to some one in the house. In the evening, her master rang the bell several times without being attended to. On going into the kitchen in consequence, he found the servant standing motionless with her eyes and hands raised in the attitude of prayer, "as if in a trance." She did not reply to his questions, or cry, or laugh. For three days she remained in this statue-like condition, totally unconcerned about what was passing around her, but occasionally saying "yes," when asked a question; without, however, any regard to the sense. When seen by the writer on the fourth day, she was in the above condition; frequently, but not always, placing herself in the attitude of prayer, and apparently absorbed in devotional exercises. When the arms were raised, a heavy weight was attached to one of them by a cord. When this was suddenly cut, the arm rebounded very slightly, showing that it was not retained in that position by the mere exercise of the will. On being addressed, she stared with a vacant expression, and would sometimes whisper "yes." The tongue was covered with a thick brown fur; the pulse about 88, soft; the bowels constipated. (It appears that her paternal grandmother was confined in an asylum.) A purgative was administered; motions and urine passed in bed. She was with great difficulty induced to take food. On the sixth day she relapsed, was quite silent, and passed her evacuations in bed. Tongue much cleaner. A shower bath was given, which was violently opposed. In a day or two she improved again; wine and ammonia were given, but she again fell into her former state. From this she suddenly emerged, without any apparent cause, four weeks after her first attack. She appeared then quite well in mind, and told

the writer that she had all the time believed she was about to be burnt upon a fire or in oil, and that the reason she would not eat was because she believed she should be burnt the moment she did so. She had experienced frightful dreams, which added to her apprehension of some impending calamity. She also fancied that it was "the last day of the world." She stated she was now perfectly convinced that these impressions were delusions, but that even now, especially at night, they presented themselves very strongly to her. With regard to her state at the time she became ill, she said she had felt sick and out of order for several days before going to her situation.

We may illustrate this form of Insanity by an interesting case, in which the religious depression, and the delusions springing out of it, were intimately blended together.

The patient, a gentleman of highly cultivated mind, (with hereditary predisposition and the father of three sons more or less deranged,) believed himself doomed, by an irrevocable decree, to eternal flames. He imagined that an entire change had taken place in the state of mankind; that all, except himself, had entered upon a state of bliss, but that he was reserved for everlasting torments, as an atonement for the sins of the whole world. He stated, that he had heretofore entertained the same views as others in regard to the character of Jesus Christ—namely, that His sufferings had obtained a general atonement; but that he had now found that Christ was a triumphant, *he* a suffering Saviour. He now perceived that the Scriptures, and many other books, were full of predictions representing himself; that the accounts of Cain, Esau, &c., although historically true, had a relation to him; that he was the son of perdition, the scape-goat, the man of sin, spoken of in the Bible; that, in fact, both the Old and New Testament were full of predictions respecting him. When dissent from such views was expressed, the patient would respond, "Oh, I know you will deny it; you are bound to deceive me. I do not mean voluntarily, but from the fictitious state of your own existence. You are only the *corpse*, the remains of yourself. It is, to be sure, idle to talk of my state to you; but the heart that is full seeks, though in vain, to vent itself." When the individual thus addressed assured him, that he had as firm a conviction of his existence in the same state of body that he had always been in, as he could possibly have respecting the mysterious change which he supposed we had all undergone; and that, as he (the patient) was quite *singular* in his opinion, he must allow, that there was the strongest possible evidence against the correctness of his views: "I would admit it," replied he, "if there were another human being in the world but myself; but, alas! all the appearances of existence in persons and things around me are fictitious; all are enjoying felicity but myself. I only am reserved to endless torment. Everything has changed its aspect. Objects around me are no longer seen in perspective, but appear flat, and raised one above another, like a Chinese drawing. Spring will no more return." When a confident belief was expressed that spring would return, and a hope that it would remove his apprehensions, "They are not apprehensions," he replied, with earnestness; "they are *convictions;* but if spring does return, and resume its usual appearance (I don't mean a few crocuses and snowdrops), I will acknowledge myself in error." At the close of an interview with this patient, who was then in an asylum, "It may seem strange," he said, "to ask you to visit me again, but I shall be glad to see you; for even the shadows, the resemblances, of those we know, are pleasant amongst strangers."

The power of self-control was singularly illustrated by a circumstance which occurred in the course of the above case. At the very time when he could not restrain the expression of his gloomy feelings before his wife, and could not attend in the least to his family affairs, he paid a visit to the poet Southey. Subsequently, the poet, who was cognizant of his guest's mental infirmities, expressed to the patient's wife the satisfaction he experienced in seeing him so well; and added, he never knew him reason more clearly. On the wife repeating this to her husband, he exclaimed. "Why, you know, I could not think of showing my weakness before *him*." The unintentional *confession* of his weakness is also an interesting feature in this reply.

C. D— was another case of a very painful character, in which Melancholia alternated with Mania. The patient, also a gentleman, imagined (although he had led a regular and religious life) that he had entirely neglected his duties, and that he would therefore be burnt alive as a sacrifice to an offended Deity. Three months after he was placed in confinement he became maniacal, vociferating and swearing constantly. These symptoms passed away, and the former state of despondency returned, accompanied by a suicidal tendency. During four months these opposite conditions frequently alternated—a phase of Insanity popularly known as "high and low." At last, while in his low mood, he suddenly became cheerful, and spoke rationally. Undisturbed sleep, to which for long he had been a stranger, followed, and he recovered perfectly. He subsequently married.

Melancholia, as has been previously stated, may be *acute* or *chronic;* and this, of course, may be the case whether it be simple or complex. The term acute, as applied to Dementia, has reference in general rather to its duration than to its character; just as we often speak of acute rheumatism (the symptoms of which may be mild) to distinguish it from the chronic form. When applied to Melancholia, however, the term conveys, in most instances, a correct impression of its character: and, when exhibited in this active phase, it is truly distressing to witness. Agony, anguish, and despair are terms which best describe this condition.

The writer has now in mind a case very illustrative of this condition; and he mentions it here, not as in any way remarkable, but simply as a type of the class.

The patient, possessed of good general ability, and a skilful artist, would sit crouched for hours, covering his face with his hands, bitterly bemoaning his lot; at other times silent, with the exception of groans and sighs. His suffering appeared

to be most acute. His expression was intensely sad; the facial muscles fixed, as if by spasm, and altogether expressive of concentrated grief. But, while exquisitely sensitive to his condition, he never wept; a reference to the causes of his dejection never caused a tear, but only an obstinate rejection of all proffered consolation. This complete absorption in grief tyrannised over, rather than extinguished, his purely intellectual faculties. His power of recollection was as acute as ever, but he recalled the sorrows, and not the pleasures, of memory. The comparing faculty was in action, but only engaged itself upon contrasting his former happy with his present miserable condition. His judgment was still good, except when he judged himself to have more cause for grief than any one else in the world; and as to his reasoning powers in general, it was a case in which, to a very great extent, the patient reasoned correctly enough, only from false premises. His perceptive faculties were sufficiently quick, but he perceived only the dark side of his case. His imagination was but too active in painting all the sufferings which awaited him. In short, he was full of fears, devoid of hope, and seemed as if he "would not if he could be gay." This patient died of phthisis, and, till within a few moments of his death, manifested the same acute symptoms of Melancholia.

Chronic Melancholia is but too frequently the sequence of the acute condition. Melancholia also, as we have seen, may alternate with Mania—the *folie circulaire* of Falret, and the *folie à double forme* of Baillarger, who regards these alternations as phases of the same affection.

All the varieties of Melancholy are disposed to be remittent; and it is generally observed that the remission takes place in the latter part of the day, the patient suffering the most acutely early in the morning, and for some hours subsequently. This circumstance affords a useful practical hint in those cases in which a suicidal tendency exists.

Ætiology.—To the causes of Insanity in general (p. 57) we may add that the exciting cause of Religious Melancholia is sometimes to be traced to the fiery denunciations of a well-meaning but injudicious preacher. It is remarkable that, even in pagan times, Marcus Aurelius made a law condemning to banishment those "*who do anything by which men's excitable minds are alarmed by a superstitious fear of the Deity.*" If the modern authors of such fearful results are not themselves to suffer banishment, it is heartily to be wished that the *practice* were entirely banished from the pulpit.

In the following case the mental disorder was closely connected with, if not caused by, unwisely prolonged religious exercise.

E. F—, æt. sixteen, was apprenticed to a whitesmith, and bore an excellent character. One Sunday evening he went to a Methodist chapel, and thence, with some of his acquaintance, to a private house, where a party met for the purpose of

prayer and exhortation (or, as it proved, excitation). The boy returned home at half-past ten o'clock. The Bible, which his father had been reading, lay on the table, so he read several chapters in it, and then prayed himself in a somewhat excited manner. They slept in the same room, and his father observed that he lay awake some hours, frequently sighing, but was not "irrational." On returning home from his work next evening, he found his son had been unable to work during the day, had eaten nothing, and was in a state of great depression, accompanied by a tendency to stupor. On the next day, when a gentleman called at the house, he clasped his hand in his, burst into tears, and talked incoherently. He evidently could not collect his thoughts, and was labouring under a sense of undefinable alarm. He was reluctant to walk or to sit down when desired to do so, but did not exhibit any aversion to his friends. For several days he continued in much the same state, and was mostly silent. The warm bath and purgatives were followed by complete recovery, and at the end of a fortnight he returned to his work. We may add that he subsequently married, settled respectably in life, and made an efficient workman. He had no relapse.

"Revivals" are not unfrequently the exciting cause of religious depression. (See p. 106.)

Prognosis.—(See pp. 131, 145.) The course of Melancholia varies mainly according to the constitution of the patient, his age, the degree in which the disorder is simple or complicated, and the presence of hereditary predisposition to mental disease. It has some tendency to pass into that "tomb of human reason—Dementia." Conolly observes, that "a great number of the patients now surviving, and who were marked in the register, on admission, as affected with Melancholy, are now in the state of Dementia." The statistics of the Retreat show that this tendency is much less marked than in Mania. Thus, out of forty-nine patients who died there, and who had been admitted in a state of Mania, sixteen were examples of Dementia; while of forty-eight who died, and who were admitted labouring under Melancholia, only *four* died in a state of Dementia.

Esquirol states, as the result of his experience, that in Melancholia the mortality is one in twelve, while in Mania it is only one in twenty-five.

SECTION V. Partial Exaltation, or Amenomania.

From Melancholia we may turn to the consideration of an *opposite* or exalted emotional condition—that, namely, to which the terms *Amenomania* (*amœnus*, agreeable) and *Chæromania* (χαιρω, to rejoice) have been applied; the former by Rush, the

latter by French writers. It is the gay Partial Insanity or Monomania *proper* of Esquirol.

There is, very generally, so intimate a connexion between those examples of Delusional Insanity, in which the delusion is of a gay and elevated character, and those exalted states of the feeling which we proceed to consider, that the two are rarely separated. They may be so, however; and it therefore happens, of necessity, that in the description of the various forms of mental disorder, we shall come upon the same phenomena when engaged on very different forms of Insanity. Thus, when our attention was specially directed to delusions, it was impossible to avoid a reference to those cases in which the patient believes himself a king or the Deity,—"Delusional Insanity of an exalted character;" and, in the consideration of the present division, we necessarily meet with cases in which the exalted state of the emotions led to these delusions.

When Esquirol restricted the term Melancholia to its present popular signification, he applied that of Monomania,* at least the affective class of monomanias, to examples of exaltation of the sentiments.

It is customary to speak of a Monomania of pride, of vanity, &c.; and French authors have *la monomanie vaniteuse*, or *Narcisse*; and *la monomanie ambitieuse*, or *orgueilleuse*, or *des riches*, or *des grandeurs*.

The former is described by Guislain in the following terms:—"It ordinarily manifests itself under the form of a tranquil Mania, which exhibits the patient infatuated with his beauty, his grace, his mind, his dress, his talents, titles, and birth. These lunatics love to see themselves in the glass, and to deck themselves out; sometimes they display an astonishing art in varying their attire, although their wardrobe may be very scanty; they invent new fashions; they arrange their hair tastefully; and they study to set themselves off to advantage, by attention to their toilet, person, and figure."

We are acquainted with such a case at present; a patient who has no very decided delusion, but who is influenced by the most exalted notions respecting himself: his every gesture, and expression, and conversation, display his diseased self-love, his *monomanie vaniteuse* associated, however, with great intelligence, and an extent of knowledge of which many who are sane might be justly proud. He constantly boasts of his "descent from one of the best families in the United King-

* For the various senses in which Esquirol employed this term, see p. 202.

dom," "a family of note," and that his family have in their possession "three different coats of arms, finely emblazoned on parchment." His "maternal blood is equally good." He is intensely sensitive to everything which can, by any possibility, be construed into a slight of himself; and the omission of any of the most trivial accustomed marks of respect, is tortured into intentional incivility. The studiously arranged dress, the self-satisfied attitude, and the buoyant step of this patient, are all in keeping with the sentiments which are present in such morbid excess.

The following case is an illustration of morbid vanity in a lady, although not developed to an extent which raises the question of confinement.

G. H—, a maiden lady, æt. seventy, her face bearing the furrows of many years, walks erect notwithstanding, and is decked out in the most antiquated foppery. All the colours of the rainbow may be seen upon her person, and while the eye is dazzled with gilt and tinsel, it is difficult to suppress a smile at the expense of this caricature of human vanity and weakness. As she walks along the streets children flock around her, bowing and curtseying, and soliciting sweetmeats and halfpence, with which she is always provided, and which she gives with an air of most gracious condescension, quite characteristic of her class. This conduct does not arise from benevolence, but is the fruit of vanity in another form—the attempt to obtain homage from the only class willing to give it. Her eccentricities do not interfere with the peace and good order of society, and she converses with entire rationality. She has one brother equally eccentric, and another is confined in an asylum for the insane.

Not unfrequently these several forms are confounded with general Mania, when from their partial character, and from the small degree in which the sequence of ideas is confused, they may properly be distinguished from it. Esquirol indeed complained of this confusion. "Writers," he says, "have not observed the difference between Monomania and Mania, because of the excitement, susceptibility, and fury of some monomaniacs." "Amongst monomaniacs the passions are gay and expansive; enjoying a sense of perfect health, of augmented muscular power, and of a general sense of well-being, this class of patients seize upon the cheerful side of everything; satisfied with themselves, they are content with others. They are happy, joyous, and communicative. They sing, laugh, and dance; controlled by vanity and self-love, they delight in their own vain-glorious convictions—in their thoughts of grandeur, power, and wealth. They are active, petulant, inexhaustible in their loquacity, and speaking constantly of their felicity. They are susceptible and irritable; their impressions are vivid, their affections energetic, their determinations violent; disliking opposition and restraint, they easily become angry, and even furious."

Guislain estimates the frequency of the Monomania of Pride at one in 300 admissions, exclusive of cases of General Paralysis, with which extravagant ideas respecting wealth are so frequently associated.

Religious Exaltation or *Excitement* is less common than the opposite condition—that of religious melancholy or depression which not unfrequently succeeds it. It has been estimated that only one per cent. of cases of excitement assumes this form. It includes the *theomania* of Esquirol.

In the boy whose case we mentioned when speaking of religious melancholy, religious excitement formed the first phase of the attack, depression the second. In asylums, patients are not so commonly admitted in the early stage of excitement as afterwards, when signs of depression are present.

The observations made, when speaking of Melancholia in regard to the relation it bears to the Moral Insanity of Dr. Prichard, apply equally here; and we find this writer giving an excellent description of religious excitement, as illustrative of disorder of the moral faculties without lesion of the intelligence.*

Many authors, and especially Heinroth, have referred to this form of mental disorder those personages of antiquity who professed to foretel future events, as the Pythia at Delphi, Cassandra, &c.

* "A person," he says, "who has long suffered under a sense of condemnation and abandonment, when all the springs of hope and comfort have appeared to be dried up, and nothing has been, for a long time, felt to mitigate the gloom and sorrow of the present time, and the dark and fearful anticipations of futurity, has passed all at once from one extreme to the other; his feelings have become, of a sudden, entirely changed; he has a sense of lively joy in contemplating the designs of Providence towards him, amounting sometimes to rapture and ecstasy. Such a change has been hailed by the relations of the individual thus affected, when they have happened to be pious and devout persons, as a happy transition from a state of religious destitution to one of acceptance and mental peace; but the strain of excitement is too high, the expressions of happiness too ecstatic, to be long mistaken: signs of pride and haughtiness are betrayed, and of a violent and boisterous deportment, which are quite unlike the effects of a religious influence, and soon unfold the real nature of the case; or it is clearly displayed by the selfishness, the want of natural affection, the variableness of spirits, the irregular mental habits of the individual. In the cases to which I have now referred, there has been no erroneous fact impressed upon the understanding—no illusion or belief of a particular message or sentence of condemnation or acceptance specifically revealed; a disorder so characterised would not fall under the head of Moral Insanity." ('Treatise,' p. 20).

Some of the founders of religious sects may, with more probability, be regarded as the subjects of Religious Insanity; having, in some instances, been themselves the dupes, when censured for having duped their credulous followers. Irving, in modern times, is a familiar illustration of the class. To what extent Mahomet was also an example offers an inquiry of great interest, but cannot, in this place, be discussed. We may, therefore, refer to a work entitled, 'Mahomet considéré comme aliéné, par le docteur Beaux; rapport à l'Académie Royale de Médecine par M. Renaudin.' A patient at the Retreat believed it was his religious duty to have "two wives and a concubine." It is easy to see that under favorable circumstances, and among the ignorant, such a delusion might lay the foundation of a new sect—Mormonism, for instance. The founder of the sect might be deluded, but sincere.

"Religious revivals," whatever opinion may be entertained in regard to their general or ultimate influence for good or evil, are doubtless the occasion for the outburst of some well-marked examples of intense religious excitement, in which excessive devotional feeling overrides the reason. In some cases a fearful state of prostration, either of mind or body, or mainly the former occurs; but in others the condition is one of religious ecstasy or exaltation, complicated in many instances with hysteria. Some fall into a trance, others see visions. "Some of the convicted see in their visions," we are told, "a black horse, others see a black man; others see Jesus Christ on the one side and the devil on the other, and they cry, 'O, Jesus Christ, save me from the devil.'" An eye-witness of the Irish revival speaks of 'theomania.' "Insanity," says the Rev. W. McIlwaine, of Belfast, "generally in one of its worst forms, theomania (and not unfrequently in other forms of Insanity equally to be dreaded, such as acute mania), has been developed to a fearful extent. Speaking guardedly, I may assert that, from unquestionable sources, I have come to the knowledge of at least fifty such cases within the last six months in this immediate neighbourhood." Some of the disciples of Irving appear to have been in a very remarkable state of religious exaltation. And, in passing, it may be observed as a curious circumstance, that some of his congregation uttered a peculiar cry or sound, which Archdeacon Stopford, who heard it, instantly recognised thirty years afterwards, as identical with what he heard

in Belfast. "That moment it flashed upon my memory; it was with some slight modification, but in its character essentially the same, the unmistakable cry of Irving's prophetess—a sound that while I live I never again can mistake or misinterpret." Religious exaltation assumes a variety of epidemic forms. Assisted by the infectious influence of sympathy, it was exhibited in some phases of the "dancing mania;" among the "Convulsionnaires;" and among the American Shakers, who profess to have originated in the Camisards or French prophets.

In the chapter on Classification we observed that Erotomania might be regarded as one of the forms of Partial Exaltation. It is more convenient, however, to describe it among those varieties of mental disorder with which it has this in common, that it involves the lower propensities, and raises the question of criminal responsibility.

SECTION VI.—Moral or Emotional Insanity (proper).*

A class of cases demanding much consideration and discrimination must now occupy our attention. They are mainly of a destructive character, and may be distinguished from emotional disorder of a melancholy and exalted character, by the term "Emotional Insanity *proper*," or Moral Insanity.

Synonyms. — *Gemüths-wahnsinn* or *krankheit* (Ger.); *Manie raisonnante* (Pinel); *Monomanie affective* and when an irresistible impulse *instinctive* or *sans delire* (Esquirol); *Folie d'action* (Brierre de Boismont); *Moral Insanity* [proper] (Prichard).

That intellectual power and the perception of moral truth do not necessarily exist in the same degree in the same person, that they do not always develop themselves *pari passu*, are propositions which, as the result of common observation, obtain general acceptance. But that there should be anything like congenital defect of the moral sense (*anomia* of Dr. Rush), in conjunction with intellectual powers not strikingly deficient, is a proposition not so generally recognised, or so easily established. It is obviously one which must be carefully considered in the description of mental diseases. (We shall *define* as we proceed.)

Many analogies subsist between the moral and intellectual

* See p. 56 of this work.

faculties, and, in many respects, they may be observed to be under the influence of the same laws. The sentiments, no less than the intellect, are indicated by, or associated with, certain temperaments and physical signs; thus, good nature usually coexists with a sleek and fat habit of body. Virtuous and vicious tendencies would often appear to be hereditary; or, as congenital, are displayed from the earliest infancy in children subjected to the same educational influences. The moral faculties may be either excited or depressed by disease. "Who has not seen," asks Dr. Rush, "instances of patients in acute diseases, discovering degrees of benevolence and integrity that were not natural to them in the ordinary course of their lives?" Dreams affect the moral faculties as well as the intellect; under their influence we are benevolent, devotional, passionate, and affectionate, as well as imaginative and talkative.

Ray, in his 'Jurisprudence of Insanity' (p. 163), after treating of Mania as it affects the intellectual powers, proceeds to observe, that a more serious error can scarcely be committed than that of limiting its influence to them. "It will not be denied," he adds, "that the propensities and sentiments are also integral portions of our mental constitution; and no enlightened physiologist can doubt that their manifestations are dependent on the cerebral organism. Here, then, we have the only essential condition of Insanity—a material structure connected with mental manifestations; and, until it is satisfactorily proved that this structure enjoys a perfect immunity from morbid action, we are bound to believe that it is liable to disease, and consequently, that the *affective* as well as the *intellectual* faculties are subject to derangement."

Symptoms.—The most striking feature of Insanity in general, and the strongest proof of the presence of any of its forms, is the change which takes place in the individual's character and habits. To cases of congenital deficiency of the intellect, however, whether altogether idiotic or only partially imbecile, it is at once manifest that this test does not and cannot apply. In such instances the natural character is itself in an abnormal condition, and ceases to be the standard of health.

This observation applies with peculiar force to the matter now under consideration. If there ever be, congenitally, a condition of the moral sense analogous to Imbecility, it is impossible to

apply, in such instances, the test referred to—a test which is alone applicable to mental disease when acquired. We have seen several well-marked examples of lunatics, who, on ariving at manhood, were placed under restraint because age brought with it a certain legal responsibility, the absence of which, in early life, rendered the patients' friends willing to content themselves with their own surveillance. In such cases, parents assert that the child, the boy, and the young man, alike presented the symptoms of an inert moral nature, and of an activity of the animal propensities, over which threats, rewards, or punishments exercised a very trifling control.

There was formerly a patient at the Richmond Lunatic Asylum, Dublin, whose case illustrates this class. We are informed that "he exhibited a total want of moral feeling and principle, yet possessed considerable intelligence, ingenuity, and plausibility." "He has never," says Dr. Crawford, "been different from what he now is; he has never evinced the slightest mental incoherence on any one point, nor any kind of hallucination. He appears, however, so totally callous with regard to every moral principle and feeling, so thoroughly unconscious of ever having done anything wrong, so completely destitute of all sense of shame or remorse when reproved for his vices or crimes, and has proved himself so utterly incorrigible throughout life, that it is almost certain that any jury before whom he might be brought would satisfy their doubts by returning him insane."

There was admitted into the New York State Asylum a patient, who is described as being the "exact counterpart" of the preceding case.

"He has been," says Dr. Benedict, in his 'Annual Report' for 1850, "a scourge to his family from childhood; was sent to the army to get rid of him, from which he was turned out as an incorrigible villain — always fighting and getting drunk, for which he was repeatedly flogged. By seclusion, he becomes so savage as to render the task of entering his room and supplying his wants by no means enviable; and when at large he often assaults those around him. His chief employments are eating and fighting; and, although he is constantly endeavouring to get out of "these barracks," he seems to have no particular object in view but the more free indulgence of these propensities. In all but this one case, moral treatment alone has accomplished our object, but on him little moral influence can be exerted. By the aid of nauseating remedies, frequently administered, we are enabled, in some degree, to control him. Blisters, and setons to the back of his neck, are now being tried."

Dr. Benedict speaks of the above patient as possessed of intelligence.

A very remarkable (and, in some respects, analogous) case is reported in the 'American Journal of Insanity' (Oct. 1846):—

A girl, eighteen years of age, guilty of arson, is represented to have been quite destitute of the moral feelings. "She possessed quick perceptions, good reflective

capacity, and a large share of ideality, &c., but no human kindness had she; nothing human, indeed, but her form." She is stated to have resembled a serpent in her movements. Her skin was cold—circulation very slow; her skin was also "spotted like a common species of snake."

Dr. Prichard in his smaller volume, 'On the Different Forms of Insanity' (2nd edit., p. 157), speaks of a youth, "an incorrigible thief, and addicted to falsehood and deception in every way and apparently devoid of all perception of right or wrong. The mother of this boy was addicted to Mania or raving madness." And Dr. Prichard, although he mainly had in view cases in which the moral character underwent a change, has not entirely overlooked the class now referred to:—"It seems not improbable that many persons, wrong-headed and perverse *through life*, and singularly capricious and depraved, would afford in reality, if the matter could be ascertained, examples of Moral Insanity, native or *congenital*." Other examples of moral madness in early life will be found in Ray's 'Medical Jurisprudence of Insanity,' p. 99, and in Esquirol's 'Maladies Mentales,' tome ii, p. 115. Dr. West says that, in his experience, children are more subject to moral than intellectual aberration.

It must, of course, be admitted that ordinary idiots are idiotic *morally* as well as intellectually; but we have not yet seen sufficient evidence to prove that a condition deserving the name of moral idiocy exists, in connection with an average development of the intellectual faculties, notwithstanding the statements of some observers, whose opportunities of observation, both in regard to the insane and idiots, have been very large. Dr. Woodward, formerly physician to the State Lunatic Asylum in Massachusetts, held that, "besides a disease of the moral powers, there seems to be, in some cases, something like moral idocy, or such an imbecile state of the moral faculties *from birth*, as to make the individual irresponsible for his moral actions." He adds, however, that "the persons to whom I refer have rarely much vigour of mind, although they are by no means idiots in understanding." Dr. Davey has expressed himself very decidedly in favour of the union of moral idiocy with intellectual ability, in an interesting paper in the 'Association Medical Journal' (Sept. 13, 1856); and although we hesitate to admit what can properly be called moral idiocy apart from more or less lesion of the intellect, we fully grant that there may occasionally be good intellectual abilities, in association

with congenitally feeble moral powers and volition (a moral *insensibility*), and therefore a proportionate irresponsibility.

For obvious reasons, we are prevented publishing the details of many cases of this description falling under our own observation. We may mention, however, the case of a patient admitted into an asylum at the age of seventeen, labouring under Moral Insanity and Epilepsy. He possessed decided intellectual vigour, united with an exceedingly obtuse perception of moral responsibility. His father stated that his character had been the same "from the cradle." At nine years of age he endangered the life of a little boy—his playfellow; subsequently, at school, he was characterised by similar mental qualities, learning more quickly than other boys, yet committing many acts of violence. He was, consequently, obliged to leave several schools. Still, the term "moral idiocy" is scarcely appropriate.*

We know of another well-marked case of peculiarity in the temper and moral disposition, manifested from the earliest infancy, in which the intellectual faculties are not only equal to, but above, the average. The disease, or defect, was hereditary. The patient has been in an asylum for years.

"We have seen," says Marc (vol. i, p. 329), "homicidal mania manifest itself during the *first* years of life. Thus age, considered by itself, cannot be any true guide in regard to mental disorders."

That all forms of Insanity involve disease of the brain, whether functional or organic, whether primary or only secondary to, and symptomatic of, disease in some other viscus, is a truth it has been our endeavour continually to insist upon as their distinctive characteristic. But let us clearly understand what we imply by the term disease. "Health," observes Dr. C. J. B. Williams, "consists in a natural and proper condition and proportion in the functions and structures of the several parts of which the body is composed. From physiology we learn that these functions and structures have to each other, and to external agents, certain relations, which are most conducive to their well-being and permanency; these constitute the condition of health. But the same

* Since this was written the patient has died of disease of the spinal cord, which caused paraplegia and disorder of the pelvic viscera. The result is one of many illustrations of the close relationship subsisting between disorders of the moral faculties and the Nervous System.

knowledge also implies that function and structure may be in states not conducive to their permanency and well-being; states which disturb the due balance between the several properties or parts of the animal frame; and these states are those of *disease*."—'Principles of Medicine,' p. 2.

To apply these principles to our present subject, we may say that disease signifies, in any cerebro-mental affection, that such a condition is present other than health, as to cause a particular mental state, or act, of an individual. It must comprise congenital deficiency; all arrests of development occurring in infantile life; and the various diseased psycho-cerebral conditions of adult life. In some persons there is rather a congenital proclivity to disease than actual disease itself; and in these a circumstance, which in persons *without* that proclivity would produce no result, will call into action abnormal, that is to say, truly diseased, mental manifestations, although they may seem only functional, and subside when the exciting cause is removed. It is to analogous cases that the above writer alludes when he observes that "disorder may arise from an undue proportion or predominance of a function."

Should it be said that disease involves a "*changed* condition or proportion of function or structure in one or more parts of the body," it is to be observed that this change may have taken place at a period when it would escape notice, or even during fœtal life. During the latter period diminished nutrition of the body, or diminished nutrition of one part and increased nutrition of another, may have occurred; and thus resulted in the production of an undue proportion or predominance of a function—"hypertrophy of some textures frequently coexisting," as the eminent writer last cited observes, "with atrophy of others, perverted nutrition being often combined with excessive or defective, and several of these different changes often occurring in succession, in consequence of the operation of the same causes." There is, indeed, during fœtal life (and we may practically widen this period, and say, during that which elapses before the character is or can be observed), abundant opportunity for the influence of perverted nutrition; whether it be in the formation of cell-germs, their passage into cells, or the subsequent processes connected with the growth and organisation of the tissues; or again, whether the elements of the circulating blood be in an abnormal proportion;

or lastly, whether it be the mysterious but well-recognised principle, in virtue of which there is an hereditary predisposition to disease, which rules over and perverts the nutritive processes. Thus, in a case of what would probably be regarded as congenital moral imbecility, the mother of the patient was the subject of malignant disease of the uterus during gestation. Now, it is possible that this condition of the mother interfered with the proper nutrition of the cerebral tissue of the fœtus, and was one, among other causes, which contributed to the final result. Persons born with talipes, or strabismus, owe their defect to some disease of embryo life. In like manner, during the same period of existence, the brain may undergo pathological changes which induce defective *moral* power.

Dismissing the consideration of congenital cases of defect or disease of the moral faculties, we may pass on to those in which this condition of mind comes on or is first exhibited in adult life; and here the test already spoken of may be most properly applied. The standard of mental health may then justly be sought for in the natural and habitual character of the patient. This it is which is now altered, and the symptoms by which it is rendered manifest may next be considered. Usually the change in the feelings and conduct of the patient is gradual. Frequently he is more absorbed and reserved, and on any provocation, however slight, is unreasonably irritated. He becomes suspicious, liable to attribute false motives to his friends and others, and to cast ungenerous reflections upon his nearest relatives. The husband suspects the fidelity of the wife, the wife that of the husband, without the slightest foundation. The patient is observed by strangers to be morose; and, as the cloud gathers, his acquaintance become conscious, without knowing exactly why, and very probably without once supposing the man to have become, in plain English, mad, that he is, somehow or other, an altered man.

At last the storm bursts; and some act is committed of an outrageous character. He is then regarded as either insane or criminal; the former, probably, if the act does not make him decidedly amenable to the laws of his country, and his destination is the asylum: the latter, most probably, if the act has been homicidal, and he is consigned to the executioner. In other cases an individual has been subjected to over-exertion of mind, his powers overtasked, or his feelings put upon the stretch, in consequence of

anxiety or unaccustomed responsibility. He then finds himself susceptible to the slightest mental emotion, loses his sleep and rest, is conscious of more or less uneasiness about the head, a sense of tension and dull aching pain, is probably troubled with palpitation of the heart, and finds himself unequal to the discharge of his usual duties. His digestive organs are also often disordered, his appetite uncertain, the secretions depraved. In addition to all this, he may be distressed by certain impulses and tendencies, which are alike repugnant to his reason and to the dictates of his moral nature. Often the impulse is to do violence to himself or others, or simply to break glass or articles of furniture. We know a case in which the patient was, in the first instance, strongly impressed with the desire to obtain pistols; he was astonished and perplexed with so strange and purposeless a desire.

Under these circumstances, it is no unusual thing for the patient to deliver himself up to the care of some judicious friend, or an asylum; and a happy thing it is for himself and society when such is the case.

A patient, the subject of emotional Insanity, thus expressed herself to the writer :—"I have my reason, but I have not the command of my feelings. Circumstances in life create feelings and prejudices which prevent my passing through life smoothly. My *intellect* is not insane; it is my *feelings* I cannot control." It would have been impossible to have described her state more correctly. Since we first recorded this case the patient has committed suicide.

The question naturally arises, Are the physical symptoms of the morally insane such as might be looked for if they are the subjects of a physical disease? The answer has already, to some extent, been anticipated by the enumeration which has been made of several well-marked, premonitory symptoms. It should also be remembered that in many of the insane, in whom there is indisputable lesion of the *understanding*, the most careful scrutiny will fail to discover any disorder of the circulation, as indicated by the pulse and the respiration, or of the functions of secretion and excretion, as indicated by the tongue, the alvine evacuation, or the renal secretion. And, with the exception of the congenital class of cases already referred to, it may, we believe, be safely affirmed, that among those patients whose moral nature appears to be specially invaded by disease, derangement of the physical health

is as frequent as among those whose intellect is manifestly disordered. And the termination of cases of Moral Insanity in some unmistakable disease of the nervous system, as General Paralysis, will not unfrequently solve any doubt which may have been felt previously in regard to the disease of one or more of the bodily organs. Further, Moral Insanity most frequently assumes a chronic form, and therefore it is not surprising if physical symptoms are sometimes not well marked. When acute, that is to say, when the patient is driven irresistibly to the commission of some act, the physical symptoms are generally obvious enough so long as he is under the influence of the morbid impulse.

The exceptional class above spoken of includes those cases of perverted moral feeling the history of which extends back to the earliest infancy, and probably to congenital malformation of the brain, and in which the proof of an abnormal physical condition is to be found in various facts which a careful inquiry into the family and particular history of the patient will elicit. But even in these cases, there is one physical disease to which the patient, in a large number of instances, is or has been subject, and that is epilepsy. Nor can we forbear the expression of the belief that convulsions in infancy are, in relation to their ultimate effects on the mind, not sufficiently recognised. Often do these pass away, and are forgotten, when the dentition is accomplished which induced them; but some portion of the cerebral tissue has received an injury, which in any other tissue of the body, were its severity two-fold, would be easily recovered from, but which in so delicate a tissue as the nervous—in which the very process of repair is so hazardous to the integrity of the associated function—permanently injures the moral or intellectual powers of the child, and is painfully perceptible as he grows up to manhood.

We know a case in which a child had pertussis at three years of age, followed by symptoms of hydrocephalus, from which she recovered; but ever after, there was a marked perversion of the moral feelings, without any failing in the perceptive faculties; and, although her judgment is far from good, there is no decided lesion of the understanding. She is quick, has an excellent memory, and can acquire knowledge easily. Her parents state that, although, in the abstract, she knows the difference between right and wrong, she has appeared incapable of following the former like other children. Education failed to counteract the most determined propensities to falsehood and theft, and at the age of puberty the sexual instinct was strongly developed, and has ever since formed a prominent feature of her malady; in consequence of which she was placed in an asylum when only seventeen years of age.

We know also a case of Moral Insanity which dates from an attack of scarlet fever occurring when a boy was under five years of age.

From that time there was a certain change of character, a want of self-reliance or ability to help himself in any difficulties, so that he constantly wanted help in his employments. Great excitability was also manifested. As he grew up he practically reversed the motto *esse quam videri*, for if he had the *videri* in anything, the *esse* was a secondary consideration. He excelled in spelling at school, but not in other departments of knowledge. He was a good reader of ordinary tale books and of popular scientific works; his memory was very tenacious, not only of the facts, but of the very words. The change in his moral nature was strikingly shown by his appearing to lose the distinction between truth and falsehood, he having been truthful and conscientious before, and while making a high profession of religion he was deceiving his friends and himself also. He chose low society in preference to the refined associations by which he was surrounded at home. For some time after his regard for truth had disappeared, he distinguished between *meum* and *tuum*, but this distinction was after a while removed also; and he possessed himself of some articles of little value, which he evidently appropriated from a morbid desire to steal, and not from any use he could make of the articles. To immorality, in the popular sense of the term, he has not manifested any tendency.

Some time after he attained his majority, his friends had reason to fear that he would commit some act of violence which would bring him into the hands of justice, and, after having endured an amount of anxiety and suffering which those only who know these painful cases from practical experience can fully estimate, they obtained the opinion of two medical men familiar with mental disease, who had no hesitation in certifying to his insanity, and he was placed under proper care and restraint. We may add that there is no known hereditary taint of Insanity in this gentleman's case, and that everything in his training and surroundings was calculated to foster, without morbidly exciting, religious feeling and conduct.

Perversion of the moral sense may also occasionally be traced to accidents, followed by injury to the bodily structures; as a fall from a horse, or a blow by which the head has sustained injury. Thus, among the cases falling under our own notice—

A lad of good abilities was thrown from a horse, when twelve years of age, and his head sustained much injury in consequence; the skull bearing evidence in after-life of the accident. For several months afterwards the mind was weakened, but then gradually recovered its tone; at twenty years of age, however, he suffered from Melancholia, followed by alternate attacks of excitement and depression, but was not placed in confinement. Ultimately, it was necessary to place him in an asylum, when he afforded a marked example of Moral Insanity.

A case recorded in Dr. Wigan's work, 'On the Duality of the Mind,' is generally known, and well illustrates the influence of injury to the cerebral substance upon the moral character. A blow upon the head, given by a teacher with a ruler, was followed by

an entire alteration in the moral feelings. Mr. Cline trephined, there being a very slight depression of the bone, and a bony spiculum was found pressing upon the brain. Perfect recovery of mind followed.

Sauvages and others attempted to distinguish in their classifications between *hallucinationes* and *morbi pathetici*, but Pinel drew from his practical experience much more decided conclusions, and recognised a form of mental disorder to which he gave the name of *manie sans délire*, or "madness without delirium," that is to say, without lesion of the intellect. To the question placed at the head of his chapter, "Can Mania exist without lesion of the understanding?" ('Traité Médico-philosophique sur l'Aliénation Mentale,' 2nd edit., p. 155), he replies, "We may entertain a just regard for the writings of Locke, and yet think that his notions about Mania are very incomplete, when he regards it as inseparable from delirium. Like this author, I thought so myself, when I resumed at the Bicêtre my researches on this disease, and I was not a little surprised to see many madmen, who at no time had manifested any lesion of the understanding, and who were under the dominion of a sort of instinctive fury, as if the affective faculties alone had been diseased."

This description, however, only includes one class of cases, those, namely, in which there is simple instinctive fury or excitement, —an ungovernable passion, excited upon the least provocation (*emportement maniaque*). Pinel's first example of Mania without delirium is of this order (op. cit., p. 156). We know of a case in which a man was an example of strict integrity and honour, but exhibited such extreme violence of passion and irritability of mind, that it was almost impossible to associate with him. He was extremely suspicious, and looked on the dark side of every circumstance and character, and when once he had formed an opinion, it became a prejudice which nothing could surmount. He was not in an asylum, and had he committed a homicidal act, it is very doubtful whether the law would have held him irresponsible. His father and mother lived in a cottage on the edge of a moor, and were both subject to attacks of unmistakable Insanity. At these times they would leave their home and wander among the furze, where they were frequently found laid on the ground by hunting parties.

The right understanding of the conditions to which Pinel

applied the terms "reasoning madness," and "mania without delirium," and also the Moral Insanity of Prichard, is much assisted by the adoption of Esquirol's division into *affective* and *instinctive* Monomania. We have, in a former section, referred to this writer's "Affective Monomania," as applied to cases of exaltation. Here, however, we think the use of the term is much more legitimate, and is indeed very convenient.

In the first division, "monomaniacs are not deprived of the use of their reason; but their affections and dispositions are perverted. By plausible motives, by very reasonable explanations, they gratify the actual condition of their sentiments, and excuse the strangeness and inconsistency of their conduct." This condition we spoke of in the first edition of this work as "Mania, with general extravagance of conduct." It might perhaps be described as one of general moral obliquity—dependent, of course, upon cerebro-mental disease. The *ego* itself is perverted (see p. 56).

In the second, "the patient is drawn away from his accustomed course, to the commission of acts which neither reason nor sentiment determines, which conscience rebukes, and which the will has no longer power to restrain. The actions are involuntary, instinctive, irresistible. The *ego* is overborne by an impulse.

Dr. Prichard's observations on Moral Insanity apply more especially, but by no means exclusively, to the first division (*Manie raisonnante* of Pinel; *Folie d'action* of Brierre de Boismont). Esquirol observed that Dr. Prichard had confounded the instinctive madness of Pinel, with his Moral Insanity; and Dr. Prichard, in a subsequent publication, admitted that the terms have reference to two distinct classes of cases. We have already taken occasion to point out the wide area of morbid mental phenomena which this writer's term embraces; and a reference to his own definition may tend to a clearer apprehension of a disorder, which, more than any other, has puzzled the psychologist, perplexed the advocate, and disconcerted the divine. He defined it to be "a morbid perversion of the natural feelings, affections, inclinations, tempers, habits, moral dispositions, and natural impulses, without any remarkable disorder or defect of the intellect, or knowing or reasoning faculties, and particularly without any insane illusion or hallucination."

"The signs of reasoning Monomania," observes Esquirol, "consist in the change and perversion of the habits, dispositions, and

affections. . . The understanding is not essentially disturbed, since it assists in the acts of the insane person, and the patient is always ready to justify his sentiments and conduct. Reasoning Monomania has an acute and chronic course. We distinguish three periods in it. In the first, the disposition and habits are changed. In the second, the affections are perverted; and, at length, in the third, a maniacal excitement appears; or else a weakening of the faculties, more or less rapid, leads the monomaniac to Dementia.

"It is necessary to admit," observes Marc, "since facts demand it, that there are two sorts of Monomania, one of which is *instinctive*, the other *reasoning*. The first bears the monomaniac on to instinctive and automatic acts, which are not preceded by reasoning; the other determines acts, which are the consequence of a certain intellectual operation." (Vol. i, p. 244.)

Thus, then, it is highly important to remember, that all examples of what are called Moral Insanity are not necessarily instinctive, impulsive, irresistible. For although (in a loose use of the word) the man morally mad may be said to be irresistibly so—that is, his condition of mind is not voluntary—the examples of irresistible impulse belong to quite a different class. Ignorance of this distinction has often led to deplorable confusion. A case of sudden and irresistible impulse may, and generally does, afford an illustration of Moral Insanity; but many cases of Moral Insanity do not fall under the division of instinctive madness.

Modern physiology teaches that there is a *reflex action* of the cerebrum, as well as of the spinal cord; and thus satisfactorily explains the existence of automatic or instinctive acts (see p. 153). To such cases Dr. Carpenter alludes ('Human Physiology,' fourth edition, p. 840) when he says, "So far as the directing influence of the will over the current of thought is suspended, the individual becomes a thinking automaton, destitute of the power to withdraw his attention from any idea or feeling by which his mind may be possessed, and is as irresistibly impelled, therefore, to act in accordance with this, as the lower animals are to act in accordance with their instincts."

In treating of classification we remarked on the duplex character of our affective faculties—the "moral" and "animal." It is more especially when actions are "involuntary, instinctive, irresistible," when, in short, true instinctive Monomania occurs,

that we witness the faculties common to man and the brute, no longer governed and regulated by the higher powers peculiar to man. What is health in the brute is disease in man. What is noble and grand in the lion is base and sickening in him to whom dominion over the beast of the field was given. This reference to the propensities common to man and the lower animals does not, however, derive much illustration from several of the well-marked examples of instinctive Mania, as Suicidal Insanity and Dipsomania, in which there may be a blind irresistible impulse, accompanied by an acute sense of the nature of the acts committed. We do not witness in these cases the merely unrestrained action of instincts characteristic of animals below man; but rather, in the one case, the *perversion* of an instinct common to both (self-preservation, or the love of life), and in the other an instinct or craving which must be regarded as human rather than animal.

Ætiology.—In the cases which we have given we have already specified various causes. See also the chapter on the causes of Insanity generally (p. 57).

Prognosis—Unfavorable. See p. 145.

The period which has elapsed since the first edition of this work was published has been marked by two opposite currents of medical opinion. On the one hand the tendency has been to ignore not only the name but the doctrine of Moral Insanity.* On the other, some of those most conversant with crime are inclined to regard it as closely allied to, if not identical with Insanity. Thus, Mr. J. B. Thompson, the resident surgeon of the General Prison for Scotland, at Perth, in an article on "The Hereditary Nature of Crime," in the 'Journal of Mental Science,' Jan., 1870, says, "From large experience among criminals I have come to the conclusion that the principal business of prison surgeons must always be with mental disease; that the number of physical diseases are less than the psychical; that the diseases and causes of death among prisoners are chiefly of the nervous system; and, in fine, that the treatment of crime is a branch of psychology." Although it does not follow from this allegation that those criminals whom Mr. Thompson would regard as labouring under diseases of the nervous system are bright intellectually (the contrary being in many instances the case), the inference is inevitable, that if the position taken in this essay be established, a large number of persons possessing so much intelligence as to be regarded by judge and jury as *compos mentis*, are insane and irresponsible. The conclusion is practically much the

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* See an extraordinary proof of this in an article in the 'American Journal of Insanity,' Jan., 1873, by Dr. Ordronaux. While a protest may be entered against the abuse of the doctrine, the position taken by the author of this article in regard to Moral Insanity seems to us, we confess, like "an attempt to set back the clock of the century, and to revert to superstition and supernaturalism in medicine."

same whether we regard a criminal as the subject of Moral Insanity, or of an intellectual defect which a court of law refuses to recognise.*

We may now consider the various mental affections which involve the emotions or propensities in their action, and which, when uncomplicated, constitute so many varieties of Emotional Insanity proper:—Homicidal and Suicidal Insanity, Dipsomania, &c. They may, however, be complicated with disordered intellect. They may also be automatic and sudden in their action or not.

SECTION VII.—Homicidal Mania.

We shall first consider that most important form of mental disorder, the homicidal.

Synonyms.—*Homicidal Insanity; Monomanie meurtrière, Monomanie homicide* (Fr.); *Mordtrieb* (Ger.).

Definition.—Although usually and properly defined as simply an irresistible impulse to kill, we must for practical purposes treat under Homicidal Insanity or Mania, cases which, while characterised by homicidal deeds and irresistibility, arise from morbid motives, and even delusions. It is generally classed under the Monomanias; at the same time it may, and often does, coexist with general defect or disorder of the mind. In treating of hallucinations, it was stated that a homicidal act may be the result of hearing imaginary voices commanding the patient to kill. Motives, therefore, very dissimilar in their nature, and equally the result of disease, may lead to the same act; it may be fairly presumed, however, that such hallucination, so far from being the first in the series of morbid mental changes, is, in some instances, itself the offspring of a diseased propensity. Attention is especially directed to this observation, because it is not uncommon for authors to charge the intellect with being the instigator of an act, of which it appears to be the proximate cause; overlooking the possible antecedent genesis of the act in perverted propensities, which might suggest and give their own peculiar tinge to any hallucination or delusion. This, however, need not prevent the admission, that the primary cause of homicidal acts may, in some rare cases, be traced to the understanding; the propensities playing but a

* M. Despine's work, 'Psychologie Naturelle,' 1868, should be carefully studied in regard to the relation between Crime and Insanity.

secondary *rôle* in their development. Thus, a gentleman attempts to kill his wife, because he labours under the delusion that she administers poison to him in his food. Again, should an individual, anxious to commit suicide, shrink from the execution of the act, he may murder another person, in order that he may himself be put to death. But here the origin of the malady is not to be found simply in an intellectual process of thought; the motive lies deep among the feelings, and is even here closely associated with the homicidal propensity. Further, a man may terminate the earthly existence of his children in order that they may be spared the trials of this life and be safely landed in heaven. But apart from all these delusional motives, there remains the unreasoning, blind, and forcibly impelling impulse to kill.

Classification and Symptoms.—In former editions of this work we gave a carefully prepared analysis of the most remarkable cases of Homicidal Mania, classified under two heads—1st, those cases in which there is no marked disorder of the intellect, examples of Emotional Insanity; 2nd, those in which such disorder is more or less apparent. The former class was subdivided according as there is, or is not, evidence of premeditation and design. In the latter class were included cases marked by deficiency of intellect, as Idiocy, Imbecility, or a certain feebleness of mind not amounting to these pronounced states (a most important class); while others are rather indicated by a state of exaltation, shown by delusions, hallucinations, &c., these usually constituting the motive, but not necessarily so, as it may be quite impossible to connect them with the commission of the homicidal act. In the present edition we omit the particulars of these cases, with a few striking exceptions, and shall content ourselves with giving the results of the former analysis and adding several fresh examples which illustrate this form of mental disease.

Analysis of cases.

I. Without marked disorder of the intellect:			
(*a*) Without premeditation or design	31		
(*b*) With „ „	4		
	—	35	
II. Cases in which there was more or less disorder of the intellect:			
(*a*) With deficiency of intellect	5		
(*b*) With delusions, &c.	10		
	—	15	
Total		50	

As an illustration of the first division of the first class, occurs the case of a woman reported by Dr. Skae, in his 'Report of the Royal Edinburgh Asylum for 1850.' It is an excellent example of this class. There was no disorder of the intellect, no motive, and no design evinced; only an impulse. "She deplored in piteous terms the horrible propensity under which she laboured."

Such cases prove beyond all doubt that there may arise an overpowering, an irresistible impulse to destroy life. It is idle to attempt to evade the force of the evidence again and again brought forward to establish this fact, or to endeavour to tone it down in order to meet the requirements of our law courts. Psychological science has suffered grievously already from the attempt to make a sort of compromise between the simple teaching of mental pathology in these cases, and the learned but false *dicta* of the judges. Thus fettered, some alienists have united with the lawyers in denying the doctrine of irresistible impulses and, indeed, of Emotional Insanity, pure and simple, altogether. Disease, however, will not alter her character in accordance with the preconceived theories and requirements of the law; and the only really scientific and dignified course for medical psychologists to pursue, is to state psychological truths fearlessly, and leave the law to take care of itself. This would be much better than to exercise an immense amount of ingenuity in attempting to discover delusions and other proofs of intellectual disorder—an attempt which no one would dream of making in regard to the same case if honestly discussed from a purely medical point of view, or reported in the case-book of an asylum. To those who, in opposing purely Emotional Insanity, assert that this condition is only an early stage of what will eventually prove to be also a disorder of the intellect, it is enough to reply that, whether a temporary or a permanent state, the fact remains that a criminal act may be committed in consequence of cerebro-mental disease, without as yet any apparent lesion of the perceptive and reasoning powers.

The greatest difficulty, no doubt, arises in those cases of uncomplicated Emotional Insanity in which the mental disorder is of a sudden and transitory character, not preceded by any symptoms calculated to excite suspicion of Insanity. Proof of hereditary predisposition may alone be forthcoming. This form of disease has received considerable attention under the name of Mania Transi-

toria.* (*Vesania anomala*, Sanger and Retzen; *Bewilderment*, Ideler.) A thorough knowledge of the preceding mental condition would so generally reveal more or less morbid emotional disturbance, that we believe it to be exceedingly rare, if the definition of this disorder requires that there shall be a sudden paroxysm without such antecedent manifestation, that the duration of the morbid state shall be short, and its cessation sudden. In this emotional disturbance we should include the morbid feelings of the patient, both mental and physical; and if the truth could be ascertained, we have no doubt such would in the vast majority of cases be discovered, but as they rarely can be got at, and are under the circumstances, open to suspicion, it happens that, practically, in some cases involving criminality, there is no reliable proof forthcoming of any prior history of mental disorder. Cases are therefore not unfrequently met with, paroxysmal in character, of brief duration, and which suddenly cease, so far as the patient's history allows us to judge. It must also be remembered that still more frequently, outbursts of maniacal fury, including destructive and homicidal impulse, occur without the other conditions being fulfilled.

On this form of mental disorder the reader will find a useful article by Dr. S. T. Clarke, in the 'American Journal of Insanity,' Jan., 1872, in connection with the case of Pierce, found "not guilty, on the plea of Insanity." Medical testimony did not agree. Dr. Clarke says, "We define this state to be an instantaneous abeyance of reason and judgment, during which period, whether it be longer or shorter, the individual would be actuated by mad and ungovernable impulses; that its first manifestation would be an act monstrous, unpremeditated, motiveless, and entirely out of keeping with the previous character and habit of thought of the person. It would be preceded by some mental strain or agitation, culminating in a sudden mental shock. It would probably be transient in proportion as it was violent, and the transition would most likely occur on the completion of the act of violence."

M. Legrand du Saulle, in a discussion at the Paris Medico-psychological Society, Jan. 29th, 1872, reported the case of—

Theodore, æt. 26, intelligent rather above the average, of good conduct and great sweetness of character, who one day assassinated two men without premeditation, without motive, and without apparent excuse. He asks, Had he been drinking?

* See Krafft-Ebing's 'Die Lehre von der Mania Transitoria für Aerzte und Juristen dargestelt.' Erlangen, 1865.

Had he epileptic vertigo? and replies that the perpetrator of this inexplicable crime seemed to have acted under the influence of a transitory attack of Insanity. He was sent to an asylum, where on admission he was very calm and reasonable, and was soon occupied in the office. After a certain time, his mental health being always good, the doctor desired he should be discharged. The prefect refused. For five years the doctor and the prefect respectively proposed and forbad his discharge. At length the patient appealed to the Minister of the Interior, who directed an alienist physician to examine him. His report was favorable, and his release was ordered subject to a monthly examination by a medical man. M. Legrand Du Saulle was appointed, but at the end of eighteen months this oversight was dispensed with. Soon after came the war, and the doctor does not know what became of him. He says one thing always struck him in his interviews—the absence of all remorse for his act or any consideration of the families of his victims. He could never work upon his feelings in respect to them. One day he told the doctor he had had his salary increased, but that unhappily he had no family to benefit from it. "You forget," replied the doctor; "the honest man who has involuntarily injured another, is he not bound to repair the injury? Half your earnings belong to the widows and children of the two men you have killed." The speaker only succeeded in provoking a slight smile.

M. Legrand du Saulle ends the account of this case by observing that in the face of this wounded egotism, this "Sécheresse affective," and absolute want of every mark of compassionate sentiment, he said to himself that Theodore could only be an epileptic. At the same time he could not undertake to prove it. (See 'Annales,' May, 1872, p. 413.)

That the mere act itself, however strongly suggestive of Insanity, must in the absence of collateral proof be taken as evidence with extreme caution, is most true. Usually, we believe there will be some decided evidence procurable of hereditary disease or of a change in the feelings prior to the committal of the act—generally of both—and yet Griesinger was compelled against preconceived ideas to admit that the act, and the act alone, might constitute sufficient evidence of the Insanity of the homicide. "Are there not cases," he asks, "in which in criminal deeds a morbid mental state exists and has an influence, and yet presents no external manifestation?" And he replies, "I believe it possible. . . . . Who would dare to deny the possibility of active organic influences of a morbid nature, which although not externally noticeable, might, when disturbed and disordered at the moment of action, turn the scale towards crime?" And he says he was constrained in a case of murder to admit that "neither before, nor at, nor after the deed, did we find certain signs of mental disease." ("Weder

vor, noch bei, noch nach der That finden wir bestimmte Merkmale geistiger Störung.")

Griesinger considered the act must have been due to *petit mal*, and that this disease had weakened volition, without, however, any external mental symptom. ('Die Pathologie und Therapie der psychischen Krankheiten,' p. 123. Stuttgard, 1861. See also Syd. Soc. trans., by Drs. Robertson and Rutherford, p. 119.)

Many cases of Homicidal Mania fall under the head of Epileptic Insanity. The presence of epilepsy in Homicidal Mania is a complication of extreme importance. In doubtful instances careful inquiry should be made whether epileptic seizures, however slight and transient, have been observed. Some of the most dangerous homicidal lunatics, without delusion, are subject to attacks of epilepsy; they may be under the influence of destructive impulses only when a fit is threatened.

At the York assizes a man charged with the murder of a policeman was with difficulty saved from the gallows on the plea of Insanity, the result of epilepsy. The defence, as expressed by the prisoner's counsel, rested "upon the plea that at the time of the commission of the homicide at Huddersfield, he was under the influence of a well-known species of Insanity, viz. Mania connected with epilepsy, indicated by a blind uncontrollable fury, exhibited on the slightest provocation or injury, upon the use of a full diet, or the use of small quantities of intoxicating liquors." The prisoner, after the murder was committed, amused himself with singing songs, apparently unconscious of the gravity of the crime, and exhibiting no symptoms of regret for the injury he had done or fear of the consequences to himself. The successful issue of this case contrasts with that of Bowler, tried some years previously for shooting at Burrows. The defence was epilepsy, the prisoner having been on one occasion brought home apparently lifeless after a fit, from which time a great change took place in his character and habits, he eating his meals almost raw and lying on the ground in the rain. Although among other proofs of Insanity present he was suicidal, he was found guilty and executed, on the ground that he could distinguish right from wrong!

Many cases of Homicidal Mania fall under the designation of Uterine or Skae's Amenorrhœal Insanity, and constitute excellent illustrations of this form of mental disease.

A young cook, in good health, with the exception of disordered menstruation, had a gentle disposition, but at each menstrual period she became maniacal and would pursue with a knife any one who displeased her. After menstruation she was well, and regarded her acts in their true light. (Marc, vol. i, p. 317.) See also in the same work (vol. ii, p. 112), the case of A. B—, a female, aged twenty-six, who experienced at each menstrual period a strong homicidal impulse.

A striking example of a powerful impulse to destroy life occurred

in a schoolmaster, not long ago, in Paris.* It is especially interesting, as showing the power of self-control up to a certain point.

A young man, æt. 25, and of gentlemanly appearance, after giving his address, and declaring himself to be a schoolmaster in a certain well-known college, begged that the Commissary of the Police would take him in charge with a view to his confinement in the Asylum of St. Ann. He then explained that he was not mad in every respect; on the contrary, he possessed the full use of his mind; only while sleeping among the pupils confided to his charge he was seized with the most destructive inclinations. Night after night in an agony of fear he had struggled with himself, and it was with the greatest difficulty that so far he had succeeded in restraining his intense desire to strangle one or two of the little boys. Now all his energies were exhausted; he felt that this unknown power would ultimately triumph over him, and rather than commit the crime he placed himself in the hands of the police. At this moment a boy accused of theft was brought into the room. The eyes of the schoolmaster were immediately lit with a strange light, and had it not been for the timely assistance of a brawny policeman, the boy would have been throttled before the very eyes of justice.

There are some cases of Homicidal Insanity in which, while the symptoms unquestionably establish unsoundness of mind and irresponsibility, there arises the suspicion that revenge has to some extent prompted the act.

In May, 1872, a soldier named Jordan, æt. 39, under the influence of a homicidal impulse, destroyed the life of a child by cutting its throat with a razor.

He was a gunner in the Royal Artillery at Climping, near Littlehampton, Sussex. Now, in this case there was a certain amount of evidence to indicate revenge as a motive for the act, for in consequence of being out all night he was put under arrest by Bombardier Semple and confined for two days, and it was Semple's pet child that the prisioner killed. Yet the judge, Baron Martin, dismissed this idea as quite unproved, and, more remarkable still, he felt so forcibly the evidence of Insanity that he said, in concluding his address to the jury, "When such impulses come upon men, according to the medical evidence they were unable to resist them. It would be safe in such a case to acquit the accused on the ground of Insanity;" and the jury brought in a verdict accordingly of "Guilty of murder in an unsound state of mind," which, to meet legal technicalities, was altered to "Not Guilty of murder, on the ground that at the time he committed the act he was in an unsound state of mind."

* We have mislaid our authority for this case.

This was not a case of simple irresistible impulse, belonging to the class of Transitory Mania, for the prisoner had been in a desponding state of mind for a considerable time, and had at one period been treated in hospital for a disease at first regarded as *delirium tremens*, but subsequently this diagnosis was set aside. What his disorder really was at that time does not appear to have been ascertained, but it may have been acute Mania. His conduct was stated to have been good, having been twenty years in the service, and his marks indicating about eighteen years good service. A fellow-soldier proved that after dinner Jordan read a novel for half an hour, and then went to the box containing the razor, took it out, put on his tunic, and went out on to the battery, from which he could see right round the fort. A few moments after came the alarm—the children's cries—the father and mother running out, and their exclamations of horror. The witness stated that the prisoner had always seemed quite right, and that he was a very sensible man. In this case it must be noticed that the prisoner *ran away*. The ferryman to whom he went to be ferried over the river Arum said he trembled very much. He knew the prisoner well, and he always seemed to be like other persons. When apprehended he said, "It's of no use to deny it," and that he had no animosity against the bombardier or his family, and that it must have been the devil. Before the magistrates he said, "I have had a great deal preying on my mind; I hardly knew what I was doing. Two years ago my wife went away, and I have had a great deal on my mind ever since. The bombardier, his wife or family, never did me any harm that I am aware of. It was the fort that preyed on my mind; there was not sufficient company nor enough work. If it had been a livelier place and with more company it would have worn off."*

The really remarkable feature of this case is that the judge disregarded the legal tests of responsibility and was guided by medical science, for there have been many examples of uncontrollable homicidal impulse more striking than this, in which, however, the judge strongly contended for the responsibility of the prisoner and discarded the plea of Insanity.

We cannot better illustrate the second (the delusional) division of the second class of cases of Homicidal Insanity than by a highly interesting case of Homicidal Mania in the Morningside Asylum, reported by Dr. Yellowlees in the 'Edinburgh Medical Journal,' 1862. Some, however, would demur to the assumption that his suspicions of persecution amounted to actual delusions.

Smith, a joiner, became a printer and an author. For seven years he was a laborious and successful teacher, and officiated as precentor in Greyfriars Church. His first indications of Insanity bore the character of touchiness or needless sensitiveness, which rapidly intensified into a monomania of suspicion or belief in his being the subject of persecution. He summoned before the court a person who called him

* A full report of this case will be found in the 'Journal of Mental Science,' Oct., 1872. From an inquiry made of Dr. Orange, the Superintendent of the Broadmoor Asylum, the writer finds that Jordan, who has since been an inmate of that institution, remains insane. Dr. Orange writes (March, 1873) "His mind is still in an unstable condition, and I should not be surprised at the access of a maniacal paroxysm at any time."

"Whisker Willie," but the summons was dismissed, which induced Smith to assail the magistrate soon after in church for his unjust judgment. For this he was confined in prison, but, his insanity being recognised, he was sent to an asylum, where he secreted a sharp dagger with the intention of revenging himself. After a short residence in another asylum he was discharged well, and opened a shop as a publisher in Edinburgh in 1831. He issued numerous periodicals, but he soon became as much annoyed as ever with being called nicknames in the street. "His former ideas as to malevolence and persecution returned in full force; indeed, they seem never to have been entirely absent, but only in abeyance for a time, and he was constantly summoning persons to the police court for trivial injuries or imaginary wrongs." He subsequently published a weekly periodical, 'The Advocate,' which was intended specially to expose his own grievances and "to let the public know that there is no justice at law." In 1826 he removed to another street and worked as a joiner. In consequence of his continued annoyance and his failure to obtain justice, he entertained the idea of personally exacting the vengeance denied him by law, and he collected swords, firearms, &c. He said to some one that "if he could just get bloodshed he would be satisfied, but that he must kill somebody." He fortified his house, alleging that he feared his enemies, and especially the police. In one of his publications he says that if the attempt is made to apprehend him, "If it is in my power, before they make me prisoner, I will make my entry swim with blood." It was now judged necessary to secure him, and, this being accomplished with considerable difficulty, he was committed to prison as a dangerous lunatic in 1840, and subsequently to a workhouse, where he murderously assaulted the medical attendant, and he was thrust into a cell in an outbuilding, where his food was handed to him through the partially opened door.

He was now removed to the Morningside Asylum. In order to secure him, the roof of the cell had to be removed and the arms of the lunatic entangled with ropes before he could be secured.

"He was then put in irons and brought to the asylum (1841), but the man who brought him was so terrified at his prisoner and at the thought of his vengeance, that I am told he secured his own safety as soon as Smith was within the house by making off as fast as he could, with the key of the wrist-locks in his pocket!" There he was under care of Dr. Mackinnon and Dr. Skae for twenty years, and was constantly endeavouring to wreak his revenge upon the medical officers or the attendants, his attempts displaying much premeditation and cunning design. He one day stabbed Dr. Mackinnon and his assistant with a pointed iron rod, but happily the wounds did not prove dangerous. "He often afterwards said, that many a time when Dr. Mackinnon was conducting morning prayers and he was sitting near him as precentor he could scarcely keep from rising and braining him with the chair he was sitting on. He always gloried in this murderous attack, and only lamented that he had not been more successful."

In reference to subsequent attempts, Dr. Yellowlees observes, "The man's whole life was a study how to murder, and he was constantly gloating over the thought and hope of a cruel and bloody revenge."

For months he fabricated a weapon consisting of cuttings of lead kneaded into a

heavy ball and attached loosely to the end of a stick, so as to form a life-preserver; with this, when the attendant put his head into the doorway, Smith, who lay in wait, bestowed a fearful blow. He now spent a good deal of time in writing an account of some new inventions, including the discovery of perpetual motion and other extravagent schemes. "*They constitute the first very obvious manifestation of Intellectual Insanity*, supervening on moral perversions he had laboured under so long."

It must, however, be admitted, we think, that Smith's early notions about being persecuted, although to some extent warranted by being actually teazed, amounted to delusions.

In 1846, he was for the first time personally restrained by a belt fastened round the waist, to which wristlets were loosely attached, a course which was pursued in consequence of his threat to commit murder on a certain day. In 1849 restraint was discontinued except when out walking, but his mental state was the same, and it is recorded in the note-book in 1852 that "*if possible*, he is more than ever full of murderous threats."

A little later it is stated that—

"He used to entice mice into his room by leaving some of his food near a hole in the corner; he prevented their escape by closing the hole, killed them by tearing them into quarters with his fingers, and had the pieces arranged in a row in the morning to show his attendants how he would treat his enemies if he could." Subsequently he made another desperate attempt to murder an attendant, with the same careful preparation as on former occasions, and Dr. Yellowlees does not appear to use too forcible language for the subject of it when he says, "It is scarcely possible to find language strong enough to describe the bloodthirsty passion which possessed the man, the devilish ingenuity, deliberateness, and determination with which all his attacks were made, or the fiendish delight with which he gloried in relating them, and revelled in the thought of a merciless and bloody success."

In 1855 his physical health gave way. Restraint was finally discontinued. Homicidal vows and threatenings continued to mark his mental state. "Years passed away thus; and they may be described in a single sentence:—Gradual mental deterioration with persistent and unquenchable desire for revenge and blood."

The patient is thus described by Dr. Yellowlees when he first saw him in 1858:

"He was always to be found sitting up in bed with his ink-bottle beside him and his manuscripts on his knee. He was now a bent old man, with coarse wiry brown hair, fast turning to grey. He had greyish whiskers, and long, grey, shaggy eyebrows overhanging deep yet little fiery eyes that gleamed with cunning and cruelty. He had a very decided nose and a good brow, while his mouth and chin told you he had once been a man who could both dare and do. His manner was rude and defiant, as if his visitor had done him some personal wrong. . . . His answers were short and blunt. He at once gave you the impression that he had found a savage satisfaction in turning his hand and hatred against every one, seeing that every one had turned his hand against him. . . . Ere you left he was almost certain to tell you, if he thought you worth speaking civilly to at all, that he was going to remain in

the asylum no longer; that he had already shown what he could do, and was determined ere the week was over to murder the doctor or some of the attendants."

He had a slight apoplectic attack at the end of 1858, but his mental condition was not altered. His health failed much in 1860, and he laboured under bronchitis and asthma. In the following winter he was worse, but "throughout it all his mental condition remained unchanged, and he might have been seen gasping his vows of murder or his loyal anthems during a paroxysm of dyspnœa. It was not in his nature to yield. But nature herself yielded at last, and he died about the age of seventy, Dec. 3rd, 1861."*

Under the influence of dreams, homicidal acts have, there can be no doubt, been committed. They may occur at the moment of awaking from sleep, before consciousness has fully returned, or in a state of actual somnambulism. The case of Bernard Schirnadzig, who killed his wife while in a state intermediate between sleeping and waking, in the belief that he saw a stranger before him, is full of interest. (See Marc, vol. i, p. 56.) The Germans call this condition *schlaftrunkenheit* (sleep-drunkenness.)

In the newspaper reports of the police courts in January, 1859, occurs a very interesting and important case. A poor woman, Esther Griggs, was brought before the Marylebone Police Court, charged with throwing her child in the night out of the window into the street. There can be no doubt that it was due to the influence of a dream.

Sergeant Simmonds, 20 D, said—"At half past one o'clock this morning, while on duty in East Street, Manchester Square, I heard a female voice—'Oh my children! save my children!' I went to the house, No. 71, whence the cries proceeded, and the landlord opened the door. I went up stairs, accompanied by two other constables, and while making our way to the first front room I heard the smashing of glass. I knocked at the door, which I found was fastened, and said 'Open it; the police are here.' The prisoner, who was in her night-dress, kept on exclaiming, 'Save my children!' and at length, after stumbling over something, let me and my brother officers in. When we entered we found the room in total darkness, and it was only by the aid of our lanterns that we could distinguish anything in the room. On the bed there was a child five years old, and another three years of age by her side. Everything in the place was in great confusion. She kept on crying out 'Where's my baby? Have they caught it? I must have thrown it out of the window!' The baby

* The pathological appearances found after death do not belong to this chapter, but it may be mentioned that the cerebrum weighed only 35½ oz.; the cerebellum 5½ oz.; the arachnoid was opaque and slightly thickened; there were distinct softenings in the right corpus striatum, left thalamus, and floor of posterior cornu of right ventricle, all of old standing. All the arteries of the brain were more or less atheromatous. A cast of the head having been taken seventeen years before he died, it was found, when compared with one taken after death, that its capacity was less by at least twelve cubic inches.

must have been thrown out as I was going up stairs, for before getting into the room I heard something fall. I left a constable in charge of the prisoner, and I ascertained that the child, which had been thrown from the window, had been taken to the infirmary. *She told me that she had been dreaming that her little boy had said that the house was on fire, and that what she had done was with the view of preserving her children from being burnt to death.* I have no doubt that if I and the other constable had not gone to the room, all three of the children would have been flung out into the street. . . . From the excited state in which the prisoner was, I did not at the time take her into custody. I had understood that the surgeon had said it was a species of nightmare which the prisoner was labouring under when the act was committed. The window had not been thrown up. The child was thrust through a pane of glass, the fragments of which fell into the street."

To the foregoing description and illustrative cases, a brief summary of the chief characteristics of Homicidal Mania may be added. It manifests itself under very different mental conditions. Understood in its broadest sense, it may, or may not be associated with decided lesion of the intellect. It may, or may not be impulsive in character. It may or may not be preceded by premonitory symptoms so appreciable as to have been recognised. It may, or may not be manifested from early life. However, careful investigation will reveal, in the majority of cases, a disturbance more or less, of the intellectual as well as the moral faculties; leaving still a considerable number of cases in which there is a sudden, blind, motiveless, unreasoning impulse to kill. An inquiry into the patient's history will very generally detect a change in the character and hereditary predisposition to Insanity; the former, however, obviously cannot be looked for in cases where mental disorder can be traced back to infancy, or where intellectual or moral defects are congenital. Further, the homicidal act, when the result of disease, is usually accompanied *by no motive*, or a very trivial one, except so far as a delusion, or the gratification of a diseased propensity, can be regarded in this light. The subject of Homicidal Mania very frequently exhibits the utmost *sang froid*, and will even appear amused by his performance; on the other hand, in the purely impulsive form, the patient may bewail his deed in the strongest manner.

The homicidal act is often done *without premeditation or design*, but we have already seen that there *may* be premeditation, and there may doubtless be a resort to ingenious deception. A woman, thirteen days after her confinement, cut off the head of her child with a razor, while labouring under puerperal mania. She obtained a razor on the pretext that she wanted to cut her nails.

She was acquitted by the jury, on the ground of Insanity. (Chelmsford Assizes, March, 1848.)

A convalescent patient once induced his attendant to lend him a razor, for the purpose of shaving. He sat down before a glass, and having shaved one side of his face, called to him to see with what dexterity he had performed that part of the operation. The attendant came forward, but the patient started up and nearly severed the man's head from his body with the razor. This case is related by Perfect.

Frequently it is observable that the homicidal maniac sets no bounds to the destruction of his victims, a contrast to the ordinary criminal, who does not kill more than his object renders necessary.

In many cases it transpires that the sight of a weapon produced, in an abnormal state of the brain, a strong desire to use it.

Again, the homicidal act is often excited by some notorious murder, which either arouses a morbid desire to imitate or to gain notoriety and newspaper fame, or perhaps directly arouses a latent homicidal tendency.

The homicidal act, like the other actions of lunatics, is effected *without accomplices;* the members of the patient's own family are very frequently his victims ;* after the commission of the act, he *rarely escapes,* or takes precautions to prevent discovery, but delivers himself up to justice, and, by his own hand, he frequently terminates, at once, his life and his insane career.

Prognosis (see p. 150).—Although in many cases it is probable that the patient will not again attempt homicidal violence, it is in all cases (those from puerperal Insanity excepted) sufficiently possible to justify a course of action with regard to sequestration

* In the last Report of the Broadmoor Asylum we find that of 488 patients remaining on Dec. 31st, 1871, 167 (113 males, 54 females) had been charged with the commission of various forms of homicide. Of the former, 51 had caused the deaths of near relatives, 15 those of fellow-patients in other asylums or workhouses, 8 those of persons in charge of them, and 39 those of persons not included in these classes. Of the women patients, 41 had destroyed their own children, a striking contrast to the homicides among the men, only 13 of whom killed their children. On the other hand, 16 terminated the lives of their wives, and only 1 woman the life of her husband (along with her child). It may be added that of the above 488 inmates 103 were charged with attempts to murder, maim, &c., 28 with burglary, 63 with larceny and petty thefts, 36 with arson, 22 with insubordination, 12 with felony, and 7 with assaults.

which assumes that the disorder will return. Delasiauve gives the case of a man which shows how guarded, not to say unfavorable, the prognosis must always be.

In 1824 this patient, pursued by ideas of Persecution (like "Whisker Willie," reported by Dr. Yellowlees), attacked a woman and would have killed her but for prompt succour. Confined in the prison of Evreux, he soon became sufficiently well to be allowed a certain amount of liberty. In 1830 he made his escape and remained very calm during several years. Fourteen years after the first attack, he committed another act of violence under nearly identical conditions, and was placed in an asylum for the rest of his life. (See 'Annales,' 1872.)

Legal Tests of Responsibility.

Although in practice the plea of Insanity in criminal cases is in a large number of instances not determined according to the law laid down by the judges, but according to the higher law of humanity, it is desirable that the reader should know what unfortunately continues to be the main legal test of responsibility in criminal cases—the consciousness or knowledge of right and wrong; instead of being, as it should be, whether in consequence of congenital defect or acquired disease, the power of self control is absent altogether, or is so far wanting as to render the individual irresponsible. As has again and again been shown, the unconsciousness of right and wrong is one thing, and the powerlessness through cerebral defect or disease to do right is another thing. To confound them in an asylum would simply have the effect of transferring a considerable number of the inmates thence to the treadmill or the gallows. The writer heard the late Mr. Justice Willes lay down the law in a very lucid manner, and apply it to a case of murder, in which the jury, in direct opposition to his lordship's ruling, brought in a verdict of "Not guilty, on the ground of Insanity."

"The great question," he said, "which the jury would have to decide was whether the prisoner had satisfied them, by the evidence he had called, that at the time he committed the act he was in such a state of mind from Insanity as not to be responsible for what he did. With reference to that he was bound to tell the jury that every person is assumed, unless the contrary is proved, to be responsible for his acts. To acquit on the ground of Insanity, it must be clearly proved that at the time the offence was committed, the accused was labouring under such a defect of reason as not to know the nature and character of the act he was doing, and that he did not know he was doing what was wrong. That was the law by which they were bound

—law made equally for the protection of society as for the protection of the prisoner, and according to that must they pronounce their verdict. The defence for the prisoner rested not so much upon the general derangement of his mind as upon a partial disease, consisting in an impulse alleged to have been uncontrollable at the time he committed the act. He would endeavour to illustrate this by one or two cases. First, as to the case where a man did not know the nature or quality of the act committed. Such a case would be the mistaking a man whom he might see for a wild beast or the Enemy of mankind, and striking a fearful blow under that delusion. In that case the man would be so deprived of his reason from the disease that he would not be responsible. But that was not the sort of Insanity suggested by the present case. As illustrating the second part of the proposition, he would name the case of a man meeting another on the road, and, under the delusion that this person intended to take his life, aiming a blow which resulted in death. In that case the accused would not be responsible. But if a man, instead of having a delusion that the party he was meeting intended to take his life, had the delusion that he had done him a serious injury by defaming his character, and he under that delusion caused the death of the party, he would be responsible for his acts. The delusion must be such that the man does not know the nature of the act he is doing, and that *he does not know he is doing wrong*. He had put this to them in the language in which the subject had been authoritatively treated by the Judges, and which was the law of the land."*

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* The answers given in 1843 by fifteen Judges to certain questions propounded to them (occasioned by the trial of McNaughton for the murder of Mr. Drummond), and upon which the foregoing ruling rested, will be found in Hansard's 'Parliamentary Debates,' and Shelford's 'Law of Lunatics,' 1847, p. 586.

For cases in which the prisoner was acquitted on the ground of Insanity, although knowing the nature and quality of the act, and quite conscious of the difference between right and wrong, see Taylor's 'Medical Jurisprudence,' 4th edit., p. 768. For cases in which the plea of irresistible impulse was admitted, see p. 769, and p. 268 of this work. The reader is also referred to "The case of Henry Gabbites," by Dr. Kitching ('Journal of Mental Science,' July, 1867); the same writer's "Lecture on Moral Insanity" ('British Medical Journal,' 1857); "The Legal Doctrine of Responsibility in relation to Insanity," by S. W. North, M.R.C.S. ('Transactions of the Social Science Association,' 1864); "Insanity and Crime," by the Editors of the 'Journal of Mental Science,' 1864 (Townley's case); 'Étude Médico-légale sur la Folie,' par M. Tardieu, 1872; the works of Esquirol and Marc; Brierre de Boismont, 'De la Folie raisonnante, &c.,' 1867; "De la Monomanie de Persecution au point de vue de la Médecine légale" ('Ann. d'Hyg.,' pub. 1852); and Lésegue, "Memoire sur la Délire des Persecutions" ('Arch. Gén de Méd.,' tom. 27). A case of delusion of Persecution, ending in homicide and acquittal, in which the Judge's common sense and humanity got the better of his law, will be found in the 'Journal of Mental Science,' July, 1872. For cases proving the presence of the homicidal *impulse* without other symptoms of Insanity, see article by Dr. Needham in the same number; and for the important cases of Edmunds and Watson, see April, 1872. For case of insane infanticide and the Judge's summing up, see July, 1871. In addition to Mr. J. B. Thompson's article in the Journal, Jan., 1870, already cited (p. 261), we would especially refer to the succeeding one in the October number, which should be read along with Despine's work. "When," he says, "I read Despine's conclusion, that the moral sense is utterly and invariably absent in all criminals who

Hints in giving Evidence.

1. A medical man is obliged to make known, if asked in court, the statements or confessions made by a patient to him. (Peake on Evidence, p. 88. Starkie on Evidence, p. 105. Shelford, p. 81.)

2. If a medical witness believes a criminal to be insane and is called upon to give evidence to that effect, he must not be content with stating his opinion, but must be prepared to state the reasons upon which that conclusion is based. For aid in arriving at a judgment, the reader is referred to the chapter on the Diagnosis of Insanity.

3. The medical witness should confine himself to a simple statement of facts, and not allow himself to be drawn into a metaphysical discussion, or an attempt to define Insanity.

4. A medical witness sometimes wishes to fortify his view of the case by inducing the counsel to read from medical works, and the question arises whether this can be legally done. Justice Willes on the occasion already referred to, when the counsel for the prisoner pursued this course, and was interrupted by the counsel for the prosecution, said, "Counsel was at liberty to read, as part of his speech, the opinions of a medical work, but the jury would not have to decide the case upon medical criticism, but upon the case and the facts." The learned counsel then read from Taylor's 'Medical Jurisprudence,' in order to show that certain cases recorded there were similar to the one before the court. It would appear, from R. *v.* Crouch, 1 Cox, C. C. 94, that the *opinions* of a medical writer cannot be stated in an address to the jury, but Judge Willes did not distinguish between these and *cases*.

5. In regard to any notes the medical witness may have taken of the prisoner's state, he may only make use of those in court which he has committed to paper at the time he examined the prisoner.

commit violent crimes in cold blood, I confess it startled me as a most extravagant proposition," but he adds that the result of his investigation has much astonished him and not a little shaken his incredulity. He states that of 430 murderers he has had in (medical) charge only *three* discovered the slightest remorse for their crime, corroborating, he considers, the opinion that the moral sense is wanting in great criminals. Mr. Thompson states that between 1865 and 1868, out of 500 admissions of female convicts into the General Prison for Scotland, 14, or 1 to every 36, became actually insane.

6. It must not be forgotten that the prisoner may be sane when examined by the physician, and yet may have been insane when he committed the deed, and *vice versâ*.

SECTION VIII.—Suicidal Mania or Insanity.

Synonyms.—*Melancholia Anglica; Autophonia* (med. authors); *Selbstmordtrieb* (Ger.); *Manie du Suicide, Monomanie suicide* (Fr.). "*Suicide*" is stated to have been introduced by the Abbé Desfontaines, in the last century, to signify both the act and the person who commits it.

Definition.—Properly, a perversion or reversal of the natural instinct of love of life, leading to its destruction.

We have had occasion, however, previously, to remark that the act of self-destruction may originate in different, and even opposite, conditions of the mind. There are melancholic as well as maniacal suicides. It may be said that in all cases the conservative principle, so deeply implanted in the inner recesses of our constitution, is overborne, if not itself primarily at fault, by the diseased action of other mental faculties or instincts. There is, in profound melancholy, a condition of misery, from which it is natural and reasonable, so to speak, to attempt to escape. Viewed apart from the moral bearings of the question, the patient may simply be regarded as choosing death as the least of two evils. He prefers severing the thread of life, to the endurance of its misery.

But of two patients, equally a prey to Melancholia, the one will attempt to terminate his existence, while the other, so far from contemplating, will recoil with horror from, the act. By the latter, the natural desire to retain life may be possessed in much greater force than by the former; or there may survive, in one, religious convictions antagonistic to the execution of the act of suicide, which may either never have been present in the other, or may have been paralysed by disease. Other motives than those now referred to may prompt self-destruction. Thus, the act may be intimately associated with delusional forms of Insanity.

From the foregoing remarks it will be seen that Suicidal Mania admits of classification. First, there are cases in which the

instinct of self-preservation is more especially diseased, being, as it were, reversed in its operation. There is here a blind, unreasoning, irresistible impulse to commit suicide—a true Suicidal Monomania.

Several well-marked examples have come under our observation, and we have recently been informed of a case in which the patient was attacked by a strong impulse to commit suicide, and, at his own urgent request, was confined in a lunatic asylum, where he has not manifested the slightest aberration of intellect. Two or three years previously, he was injured by lightning; shortly after which he was decidedly insane, but recovered. M. Debreyne has recorded the following:—The patient, who was opulent, stated that he was perfectly happy, and free from any cause of suffering, with the exception of one circumstance which tormented him. This was the desire, thought, or violent temptation, to cut his throat whenever he shaved himself. He felt as if he should derive from the commission of the act "*an indescribable pleasure.*" He was often obliged to throw the razor away. ('Du Suicide,' p. 82. See also 'Traité du Suicide,' 1857, par M. Bertrand, p. 265.)

This form of Suicidal Mania may present, as has been well observed by M. Bertrand (op. cit., p. 259), the spectacle of an individual perfectly reasonable, influenced by an enlightened religion, physically and morally happy, well aware of the criminality of suicide, and yet impelled to commit it, in spite of himself, by a force acting automatically and superior to his reason and his will.

Secondly, suicide may be the result,—not of an instinctive Monomania, but—of Melancholia. When treating of this form of mental disease, we referred to the frequency with which the ruling propensity is that of self-destruction. The degree in which the patient is depressed, is not the measure of his tendency to self-injury; at the same time, intense depression is, in a large number of instances, the immediate antecedent of the suicidal act.

The third division comprises those cases of suicide which spring from delusions, hallucinations, &c. A man believes that he can only gain admittance into heaven by self-immolation; another distinctly hears a voice commanding him to destroy himself; while a third sees a form which leads him on to the brink of a precipice or a river. M. de Boismont observed, of 171 suicidal patients:—Eighty-three in whom there were hallucinations of hearing; thirty of sight; six in which there were illusions of hearing; thirteen of sight; thirty-three of smell and taste; six of touch.

And here it may be observed, in regard to suicide in general,

that the question so often asked, *Is suicide the result of cerebro-mental disease?* must be answered both affirmatively and negatively. That the act may be committed in a perfectly healthy state of mind cannot, for a moment, be disputed. On the other hand, that the act is, in a large number of instances, the consequence of disease is equally indisputable.

We will now briefly consider, *seriatim*, several points of interest and importance in relation to suicide.

1. *Modes of Death.*—Marvellously ingenious are the contrivances resorted to, in order to destroy prematurely that which the great mass of mankind cling to so tenaciously, and are equally ingenious in devising means to preserve and prolong. An almost universal passion is here extinguished, and its normal action reversed. The law, almost coextensive with the gift of life, that "no man hateth his own flesh," is here disregarded and broken.

The following is a statement of the modes of death adopted by 3598 persons, who committed suicide in France (but not necessarily insane) during the year 1851 (Bertrand, op. cit., p. 160):—

Strangulation			1247
Drowning			1174
Fire-arms	Pistol	112	487
	Gun	112	
	Not specified	263	
Asphyxia by charcoal			305
Precipitation			162
Cutting instruments			126
Poison			63
Other modes			34
			3598*

It is observable how the attempt at suicide is often defeated by the conservative powers of nature, and probably a diminished sensibility of the viscera.

We have known a person swallow a large stone and other large dangerous articles without a bad symptom—the stone, &c., passing through the alimentary canal unassisted by purgatives, which, in fact, are often prejudicial in such cases. A case has been recorded in which a pewter fork was swallowed by a patient who believed

* In England the resort to poison is much more frequent than in France; "asphyxia," from the common use of charcoal in the latter country, appears to take its place.

poison was mixed with his food, and lived for *five years* afterwards, when he hung himself. The fork (six inches long) was found in the stomach, the prongs, which appeared to have been designedly bent towards each other, directed to the cardiac orifice. ('Annales,' 1843, p. 483.)

It is singular how trivial a circumstance and insignificant a motive may divert a suicide from his purpose.

One day, at the Retreat, the matron happened to enter a room where she found a male patient on the point of cutting his throat with a razor. The patient was remarkable for his love of order and cleanliness. The matron, unwilling to engage in a personal struggle, with great tact and presence of mind, remonstrated with him on the ground *that he would make the room dirty*, and begged him to cut his throat —if cut his throat he would—*over a basin!* To this he at once assented, but when the basin was brought before him he no longer had the power to do it. Under such circumstances, much greater nerve and sustained determination were required than when he was alone and acting impulsively.

2. *Age.*—Many remarkable instances are on record, of children committing suicide. A writer in the 'Psychological Journal' (April, 1856) states, that—

"Of twenty-six cases of suicide in children, which he has collected, one was five years old, two were nine, two were ten, five were eleven, seven were twelve, seven were thirteen, and two were fourteen. Seventeen were boys, seven girls, two not mentioned. Amongst twenty-two of them, ten were drowned, ten hung themselves, and two broke the neck. All the girls were drowned. Five of the twenty-six failed in the attempt. Of the last, a woman, mentioned by Esquirol, who had thrown herself into the water at nine years of age, did the same at forty. M. Falret relates the history of a woman affected with Suicidal Mania from the age of twelve years; and of another who, from the age of ten, made frequent attempts at self-destruction, which succeeded at forty-five. The inadequacy of the motive is often very surprising. One boy of nine years killed himself, after having lost a bird; another of twelve, because he was only the twelfth in his class at school. On the 7th of March, 1836, Henri Fournier, æt. 12, was sent by his mother for a watch, which he broke. He was sent to bed at six, p.m., with a piece of dry bread. At ten o'clock his little sister was sent to see if he was asleep; she returned with the answer that he was. At six o'clock the next morning, a woman entered his chamber and found him hung. He had made a rope of two cravats, and hung himself to a nail in the wall, climbing up by a wardrobe. Every one bore testimony to his mildness and intelligence; he never complained of ill-treatment, except once observing that he got punished whilst his sister was always pardoned."

Of 3020 suicides in France, in one year, the majority (in respect of decades) were committed by persons between 40 and 50 years of age; 162 by minors; and 20 by octogenarians.

3. *Sex.*—Women more rarely commit suicide than men. Some statistics indicate the liability to be threefold greater among the latter. At Bethlem, according to Dr. Webster, 29 per cent. of

the female, and 32 per cent. of the male admissions, are suicidal. In our own experience, the number of women who have attempted or committed suicide is certainly equal to the men. Two of the most determined cases we have known were females—one terminating her life by suspension, the other by poison. In the latter instance, the patient baffled every precautionary measure adopted to prevent the fatal catastrophe. In a third case, suicide was attempted, but unsuccessfully, and the lady was restored to health by the use of the prolonged warm bath. In a fourth, self-destruction was contemplated, but the same treatment was followed by recovery. In a series of cases tabulated by M. Brierre de Boismont, twenty-seven of the female suicides were pregnant.

4. *Marriage.*—M. de Boismont's figures tend to show that, both among men and women, celibacy favours suicide in the community at large; but that, among cases of genuine Suicidal Insanity, the reverse occurs, there being a larger proportion married than unmarried. This he regards as one among other points of difference, between self-destruction committed by insane and sane persons.

5. *Hereditary Transmission.*—Many remarkable instances are on record of the suicidal tendency descending from one generation to another. (See cases at p. 68-9.) Hereditary taint would go far to distinguish insane from sane suicides.

6. *Seasons.*—In regard to the influence of the seasons, it is unquestionable that there is the largest number of suicides in spring and summer—a fact which might scarcely have been expected *à priori*, for the gloom of autumn would seem much more calculated to induce mental depression, and consequent self-destruction, than the joyousness of approaching summer. The suicidal epidemic recorded by Sydenham (1697) occurred in June. In 1806 a like epidemic raged at Rouen, during the months of June and July. From Dr. Benedict's Report of the New York State Asylum, for 1850, we learn that—

"There were admitted, during the month of July, the large number of forty-four patients from different portions of the state, nineteen of whom were suicidal. Several of them had attempted suicide immediately previous to admission. From the 14th of July, *fourteen* attempts were made by eight different persons; and twelve others, in whom the propensity was strong, required constant observation. The suicidal epidemic prevailed from the 12th to the end of July; after which it gradually subsided, and left the minds of most of the patients."

Lastly, it may be stated as a fact, not without its practical use, that Brierre de Boismont found of 3518 cases of suicide committed in France, in which the exact period of the commission of the act was discovered, that 2092 were in the day; 658 in the night; 766 in the evening.

8. *Assigned Motives.*—We have already, when speaking of some cases of suicide in children, referred to their frequently trivial causes or motives.

In the 'Express' of June 20, 1861, we observe mention made of suicide in a boy aged eleven, of Kusel (Germany), who hung himself because his parents did not allow him to buy a squirrel which he had taken a fancy to possess! We may refer also to the case of a woman, aged twenty-three ('Express,' June 12, 1861), who attempted to commit suicide, and was with difficulty rescued from the Regent's Canal, the reason assigned by herself when brought before the police court being, "I wanted to see Blondin at the Crystal Palace, and my husband would not take me!" It must not, however, be forgotten that in some of these cases, did we know all the circumstances, a trivial cause might prove to be only one among others of greater magnitude.

Of the 3598 suicides tabulated in a former page, 977 were referred to Insanity as a *cause* (doubtless greatly underrated), 454 were the result of family troubles of various kinds, 203 of embarrassed circumstances, 313 of the desire to escape physical suffering, 208 of habitual drunkenness, 179 of want and the fear of want, 166 of the disgust of life, and 142 of bad conduct and debauchery.

The desire to be talked about—the love of notoriety—is a very frequent motive among suicides of the uneducated, though newspaper-reading, classes. It is also well known that many cases of suicide have been prompted by imitation. Epidemics of Suicidal Mania, and of self-mutilation short of suicide, are among the many strange examples of Epidemic Insanity. Suicide so often succeeds the homicidal act as to indicate a very close relationship between them, due allowance being made for the mere desire to escape punishment or disgrace. It has been calculated that in 60 per cent. of cases of murder, suicide is attempted.

It must not be forgotten that in the preceding observations we have been speaking of suicides in general, not those cases only in which mental disease was certainly present. From an examination of three recent Reports of the Royal Edinburgh Asylum we observe that during three years 166 patients have been

admitted with suicidal tendencies,* of whom 55 had attempted and 111 meditated the act before admission. The means adopted by the former were:—Cutting throat, with or without other means, 18; precipitation by itself, 7; hanging or strangulation 7; poison, 6; starvation, 5; drowning, 4; burning, 2; suffocation, 1; dashing head against wall, 1; drinking scalding water, 1; wounds, 3.

Prognosis.—As a general rule, unfavorable.

SECTION IX.—Kleptomania (κλέπτω, *I steal*).

Synonyms.—*Stehlsucht* (Ger.); *Monomanie du Vol* or *kleptomaniaque; Cleptomanie* (Fr.).

Definition.—Strictly speaking, an irresistible impulse to steal, the natural instinct to acquire having assumed a diseased activity; but thieving from mental disease may also be the result of delusions. Under circumstances of real temptation, a man may steal and his congenital or acquired weakness of mind may justly acquit him of legal responsibility, but the use of the term in these cases is not a scientific one. It should, however, be remembered that the fact of external motive does not remove the possibility of Insanity, although, doubtless, those cases which are motiveless, as when the rich steal a worthless article, are much more easily credited.

Marc observes, "This condition"—the impulsive form—"is, doubtless, very singular and inexplicable (?), as are so many other of the intellectual and physical phenomena of life; but it is not the less real on that account, as is proved by numerous examples."

This affection is sometimes strikingly hereditary. The following is a highly interesting example, apparently the result of disease, and in which the propensity descended both to son and grandson. We give it on the authority of Dr. Julius Steinau, the author of an excellent little book on hereditary diseases:—

* In his Report for 1862, Dr. Robertson states that the annual proportion of suicides in Sussex is 8·9 per 100,000, while in England and Wales it is 6·7. In the 42 county asylums there were, taking the three previous years, 7 suicides in 1859; 11 in 1860; and 12 in 1861. We observe that in the following year, juries on Coroner's Inquests in England and Wales found 1324 verdicts of suicide; 961 being men, and 363 being women. The 'Times' gives the proportion of suicides to the population as 1 in 14,286.

"When I was a boy, there lived in my native town an old man, named P—, who was such an inveterate thief, that he went in the whole place by that name. People, speaking of him, used no other appellation but that of '*the thief*,' and everybody knew then who was meant. Children and common people were accustomed to call him by that name, even in his presence, as if they knew no other name belonging to him; and he bore it, to a certain degree, with a sort of good-naturedness. It was even customary for the tradesmen and dealers, who frequented the annual fairs in this place (which are there of a more mercantile character than in other countries), to enter into a formal treaty with him—that is, they gave him a trifling sum of money, for which he engaged not only not to touch their property himself, but even to guard it against other thieves. [Not in this case an *irresistible impulse*.]

"A son of this P—, named Charles, afterwards lived in B— during my residence there. He was respectably married, and carried on a profitable trade, which supported him handsomely. Still, he could not help committing many robberies, quite without any necessity, and merely from an irresistible inclination. He was several times arrested and punished. The consequence was, that he lost his credit and reputation, by which he was at last actually ruined. He died, while still a young man, in the House of Correction in Sp—, where he had been confined as a punishment for his last robbery.

"A son of this Charles, and grandson of the above-mentioned notorious P—, in my native town, lived in the same house where I resided. In his early youth, before he was able to distinguish between good and evil, the disposition to stealing, and the ingenuity of an expert thief, began already to develop themselves in him. *When about three years old*, he stole all kinds of eatables within his reach; although he always had plenty to eat, and only needed to ask for whatever he wished. He, therefore, was unable to eat all he had taken; nevertheless, he took it, and distributed it among his playfellows. When playing with them, some of their playthings often disappeared in a moment, and he contrived to conceal them for days, and often for weeks, with a slyness and sagacity remarkable for his age. When about five years old, he began to steal copper coins; at the age of six years, when he began to know something of the value of money, he looked out for silver pieces, and, in his eighth year, he only contented himself with larger coins, and proved himself to be, on public promenades, an expert pickpocket. He was early apprenticed to learn a trade; but his master being constantly robbed by him, soon dismissed him. This was the case with several other tradesmen, till at last, in his fourteenth year, he was committed to the House of Correction. Whether that institution was fortunate enough to correct this illfated youth, the writer of this essay is unable to state."

In the last edition we gave an analysis of cases reported by Marc and others, as illustrative of Kleptomania, under two divisions; the first, in which disorder of the intellect was not present (cases of Emotional Insanity),—the second, in which such disorder was manifest. We shall now simply give the following cases as typical of these classes:—

A lady was subject to periodical attacks of Insanity, generally in the spring. They were followed, in one instance, by an irresistible desire to steal, for gratifying which she was brought to trial, but was acquitted on the plea of Insanity. This plea was urged with great ability by Esquirol and Marc. When asked what passed

through her mind when she committed these thefts, she replied "I cannot tell; but I have such a mad longing to possess myself of everything I see, that, were I at church, I should steal from the altar, without being able to resist it." (Marc, vol. i, pp. 275, 303.)

In this and in other cases, it should be borne in mind that the character of the mental disorder was testified to by the highest authorities, and that their evidence was considered conclusive by a court of law—proverbially suspicious of medical testimony. This remark applies to many of the cases adduced in this work as illustrations of Emotional Insanity.

For cases illustrative of the influence of utero-gestation in exciting this Monomania, see Marc, vol. ii, pp. 262, 264, &c.; and Dr. Tilt's 'Diseases of Women.'

Under the second division we may refer to those cases of General Paralysis, not uncommon, in which the patient steals in consequence of the delusion that everything belongs to him. We recently saw in the Hull Borough Asylum, under Mr. Casson's care, a man labouring under General Paralysis, who in a somewhat early stage (the memory, however, failing) took various articles out of shops and from stalls, and had (his wife said) a particular propensity for stealing all kinds of *brazen* articles. How ridiculous such a statement, which, we have no doubt, was quite correct, could be made to appear by a prosecuting counsel! In another case of General Paralysis in the same asylum the patient took forty sheep out of a field and drove them up the passage where he lived. In the 'Journal of Mental Science,' January, 1873, Dr. Burman ("On Larceny as committed by Patients in the earlier stages of General Paralysis") records six interesting cases. One committed a robbery in a silversmith's shop and was sentenced to three months' imprisonment; a second, in comfortable circumstances, stole coals in open daylight and was sentenced to six months' ditto; a third, a sober man, stole oil and was sent to gaol; a fourth stole wineglasses; a fifth stole some cloth, both being sent to the House of Correction; the sixth was imprisoned for stealing nuts. In all these cases, General Paralysis was soon developed.

Then there are cases of considerable mental weakness which the law is with difficulty brought to recognise, and in which there is a propensity to steal.

Case of Renaud, aged forty-four. His ideas appear to have been very limited,

indicating a degree of imbecility. The medical commission, Denis and Marc, arrived at the conclusion that the mental condition of this individual did not appear to allow of the supposition that he had that degree of discernment and moral liberty which forms a necessary condition of criminality. (Marc, vol. i, p. 170.)

A description of the disease would be incomplete without a brief reference, in conclusion, to the accompaniments which may assist us in recognising it. The existence of hereditary disease; evidence of mental derangement prior to the development of the propensity; the occurrence of any physical disorder, as brain fever, the suppression of any discharge, or an injury to the head; puberty; pregnancy; the absence (in most cases) of any inducement to steal; the general conduct of the individual, during and after the act, and especially (although cunning and concealment are consistent with this form of mental disorder) voluntary restoration of stolen goods —all these are circumstances of great importance, in attempting to decide upon the existence of Kleptomania.*

SECTION X.—Erotomania (ἔρως, *Love*).

Synonyms.—*Love Melancholy* (Eng.); *Monomanie érotique, Hystéromanie, Nymphomanie,* (Fr.); *Liebeswuth* and *Erotomanie* (Ger.); *Satyriasis, Furor uterinus, Aidoiomania,* &c.

Definition.—According to Esquirol, Marc, and others, this term should be restricted to those cases which are characterised by excessive love for an object, whether real or imaginary. "In this disorder," the former observes, "the imagination alone is affected; it is an error of the understanding; it is a mental affection in which amatory delusions rule, just as religious delusions rule in Theomania or in Religious Melancholy. It differs essentially from Nymphomania (*νύμφη, nymphæ*) and Satyriasis (*σάθη, penis*). In the latter, the evil originates in the organs of reproduction, the irritation of which reacts upon the brain. In Erotomania, the sentiment which characterises it is in the head. The nymphomaniac, as well as the victim of Satyriasis, are the subjects of a physical disorder. The erotomaniac is, on the contrary, the sport of the imagination. Erotomania is to Nymphomania and Satyriasis, what the ardent affections of the heart, when chaste and honor-

* See article by Dr. Bucknill in the 'Journal of Mental Science,' July, 1863; also, for cases reported by M. Renaudin, the 'Annales,' April, 1855.

able, are in comparison with frightful libertinism; while proposals the most obscene, and actions the most shameful and humiliating, betray both Nymphomania and Satyriasis." "The subjects of Erotomania," the same writer observes, "never pass the limits of propriety; they remain chaste." And Marc also observes, that "in Erotomania, the disease has the cerebral functions for its *point de départ;* while in Nymphomania and Satyriasis, the source of the disease lies in the reproductive organs." (Vol. ii, p. 183.)

It is by no means easy, however, to draw these distinctions in practice. The two may exist together. Patients may completely exceed the limits of propriety, without our having any evidence that the primary disease is in the reproductive organs. It is difficult, in not a few instances, to determine whether the origin of the malady is there or in the head. In this as in other mental affections, the irritation may proceed from the centre or the periphery; the disorder may be idiopathic or sympathetic. Nor do Esquirol's examples of Erotomania sufficiently sustain the definition with which he sets out. It may, perhaps, therefore, be better to employ the term in a more comprehensive sense, so far as to consider Esquirol's description of Erotomania as but one of its forms—the sentimental—or as Erotomania *proper;* and Nymphomania or Uteromania (having reference to females), and Satyriasis (having reference to males), as additional forms. These latter are comprised under the term Aidoiomania (*αἰδοῖα, pudenda,* and *μανια*) introduced by Marc; and the *fureur génitale* of Buisson.

Symptoms.—In Erotomania there is sometimes great depression of the vital forces; and in these cases, if the remedies employed do not soon take effect, the patient becomes more and more depressed in mind and body, emaciated, and rapidly sinks; an example of the erotic fever (*fièvre érotique*) of Lorry.[1]

In some cases there is, doubtless, an erotic condition which interferes but very slightly with the accustomed exercise of the intellectual faculties, but which entirely overmasters the patient's controlling power (Emotional Insanity). To these Prichard has referred, in connexion with Moral Insanity, and gives the following in illustration:

"A young man, previously of most respectable character, became subject to severe epileptic fits, which were the prelude to attacks of violent Mania, lasting, as it generally happens in this form of the disease, but a few days, and recurring at

uncertain intervals. These complaints, after a time, disappeared in a great measure; but they left the individual excessively irritable in temper, irascible, and impetuous, liable to sudden bursts of anger and rage, during which he became dangerous to persons who were near to him. Of symptoms of this description, a state approximating to the Satyriasis of medical writers is no unusual accompaniment; but, in the present instance, the diseased propensities of the individual were displayed in such a manner as to render confinement in a lunatic asylum the only preservative against criminal accusations." ('Treatise on Insanity,' p. 25.)

Examples of the various forms of Erotomania will be found in Esquirol ('Malad. Ment.,' vol. ii, pp. 32, 49).

A remarkable example of Erotic Monomania, in which there was no marked disorder of the intellect, is reported by Ferrus, Esquirol, and Marc. ('Annales Hygiène publique et de Médecine légale,' tom. iii, p. 198; Marc, vol. i, p. 30.)

An interesting case is reported by Marc (vol. i, pp. 148-9). Erotic conduct appeared to be the result of the delusion that a lady was not married to her husband. The patient had, in consequence, to be placed under restraint.

The same writer (vol. i, p. 209) cites from Gall the case of an idiot, seven years of age, who afforded a remarkable example of Satyriasis.

Numerous examples of Erotomania (proper) are given by the same writer in his great work on the Brain, vol. ii, pp. 182, 193; and of Aidoiomania, pp. 193, 291. Of the latter see an example in the 'Journal of Mental Science,' Oct., 1872.

See also 'Dict. des Sc. Méd.,' Art. "Nymphomanie," by Villermay; and Art. "Satyriasis," by M. Rony; and M. Bayard's 'Treatise on Uteromania,' Paris, 1836.

Erotomania, in its extended signification, not unfrequently follows upon Religious Melancholy; a case lately in the Retreat was an illustration of it. Schr. v. der Kolk says he believes we should rarely err if in a case of Religious Melancholy we assumed the sexual apparatus to be implicated, either from self-abuse or other causes. It is not uncommon in the old, and, it may be, in persons who have been patterns of chastity during life. We have seen it among the first indications of senile Dementia. It is more frequent among women than men; and, as Guislain observes, among the unmarried and widows than the married. It may often, in females, be traced to disordered menstruation; also, as in a patient now in the Retreat, to ovarian disease. Nymphomania and Satyriasis may be excited also by irritating substances in the bowels, by ascarides, by hæmorrhoids, by cutaneous eruptions, pruritus, &c. It may attack any age; but the sentimental form —*Erotomania proper*—more especially affects the young, and those of an ardent, susceptible temperament. Idiots are frequently examples of the physical form (Aidoiomania). Erotomania is often complicated with Hysteria, and sometimes with Hypochondriasis.

SECTION XI.—Pyromania (πῦρ, *fire*).

Synonyms.—*Monomanie incendiaire, Pyromanie* (Fr.); *Feuerlust, Brandstiftungs-monomanie* or *lust,* or *trieb* (Ger.).

Definition.—A morbid impulse to burn.

In a systematic work it is necessary to make some allusion to the condition of mind to which this term has been attached, and to which reference is so frequently made in psychological literature. At the same time, we think that it would have been better, had psychologists included Pyromania under destructive Mania in general, instead of constituting it a distinct form of mental disorder.

We are well acquainted with the particulars of a case in which the act of burning was clearly connected with an impulse to destroy everything that came within reach. Mr. —— had had a paralytic attack about eight years previously, but had very much recovered from its effects, with the exception of uncomfortable sensations in the head, accompanied by slight confusion of mind. He was married, and was very kind both to his wife and children. Soon after retiring to bed, not having been worse than usual the previous day, and equally affectionate to his family (kissing his children before they went to bed, &c.), he shot his wife, attempted to shoot a servant, *set fire to his house in at least six different places,* and then committed suicide! The house was burnt to the ground.

An examination of the recorded cases of Pyromania will result in the rejection of a large number of them from the category of instinctive or impulsive forms of Insanity.* In a considerable number, there appears to have been a feeling of revenge, which, associated with a low moral nature, sometimes independent of, but, in other cases, the result of disease, led to the commission of incendiary acts. Of twenty cases recorded by Klein and Platner, sixteen appeared to originate in a motive, although, in many cases, of a trivial character. It is to be observed, however, that, even in such cases, as well as in those of an impulsive character,

* By far the best monograph on this affection is Jessen's 'Die Brandstiftungen in Affecten u. Geistesstörungen' (Kiel, 1860). In this work (extending to 335 pages) he gives a large number of cases of Pyromania, and he is careful to point out the distinction between those cases in which there was a more or less decided motive and those in which the act arose out of a purely diseased mental condition. He arranges his cases according as they are associated with Imbecility, Melancholia, Mania, Monomania, Dipsomania, and Epilepsy. While fully admitting its existence as a *reasoning* Monomania, he demurs to its occurrence in an *instinctive* form.

the age of the parties was under or about the period of puberty, and that a larger number of girls than boys have been the subject of this disorder.

In short, as Marc concludes, genuine Pyromania is chiefly manifested in young persons, in consequence of the abnormal development of the sexual functions, and corresponds with the period of life between twelve and twenty; if then there exist any general symptoms indicative of irregular development, or of critical changes in the evolution of the reproductive system, the presumption is, that an incendiary act has been the result of disease. Hence, attention should be paid to such signs as a too rapid growth, or one that is retarded, as well as an arrest in the development of the sexual organs; also, unusual lassitude, glandular swellings, cutaneous eruptions, &c.

Further, it is not only important to ascertain whether signs were present, before the incendiary act, of approaching menstruation, its derangement or suppression; but there is an obvious necessity of ascertaining whether there are any symptoms of disorder of the circulation, as an irregular pulse, determination of blood to the head, vertigo, headache, &c.; or of the nervous system, as involuntary muscular movements, trembling, spasms, and convulsions of any kind, epilepsy and catalepsy. In connexion with all these symptoms, there will generally be found some change in the character, such as a tendency to sadness, irascibility, and other symptoms of disordered cerebral functions. In some cases on record, there existed, from infancy, a condition of mind bordering on imbecility. Dr. Morel, in his recent treatise (1860), lays great stress upon Pyromania, as an instinctive form of Insanity, in some children with hereditary predisposition.

In analysing some of the most remarkable cases illustrative of the disorder which are on record, we have classified them under the following heads:—I. Cases in which there was no marked disorder of the intellect. (Emotional Insanity.) II. Those in which such disorder existed. Under the former head, it is convenient to distinguish those (*a*) in which there was no premeditation or design, from those (*b*) in which they were present. Again, under the second head, it may aid the investigation of the subject, to separate those cases (*a*) in which there was a deficiency of the intellect—imbecility, idiocy, &c.; from those (*b*) in which

there were delusions, hallucinations, &c.; these generally constituted the motive.

I. Without marked disorder of the intellect.

(*a*) Without premeditation or design.

The following is a case in point:

A boy, sixteen years of age, set fire to the house of the father of a person to whom he was much attached. He struggled against the impulse for a year. (Marc, vol. ii, p. 291.)

(*b*) With premeditation and design.

Case of Jane Wells, aged thirteen, servant in Mr. Stone's family, near London. Dr. Southwood Smith certified, that she had been suffering from brain-fever some time before; that her convalescence had been protracted, and that her mind might have been injured. The chief motive in this case appears to have been the pleasure of seeing a blaze. (Marc, vol. ii, p. 369.)

II. With disorder of the intellect.

(*a*) Depressed condition of the intellect, imbecility, &c.

Case of a boy, K—, aged eleven years and six months. The conclusion arrived at by the expert who examined him was, that, owing to a defective education, he was still infantile, and that the first incendiary act of which he was guilty was a childish trick—the second, the result of secret ill-will; but that, independently of this, there was disease—congenital or acquired—which exercised a certain influence upon his conduct. (Dr. Meyer, of Pinneberg, 'Annales de Henké;' Marc, vol. ii, p. 330.)

Case of slight imbecility, and of Pyromania, in a lad aged seventeen. No motive appeared beyond the love of mischief. It is, however, a highly interesting and instructive case. (Marc, vol. i, p. 406.)

(*b*) Exalted condition of the intellect, hallucinations, &c.

Case of a girl aged seventeen years, in which an inward voice was heard commanding her to burn. This was the only sign of aberration of the intellect. ('Questiones Medicinæ Forensis,' 1821; Ray, 'Medical Jurisprudence of Insanity,' p. 193.)

Case of a girl aged fifteen, named Graborkwa. Here the only disorder of the intellect was an hallucination that an apparition was constantly before her, impelling her to acts of incendiarism. (Klein, 'Annalen,' xii, p. 136; Ray, loc. cit.)

Case of a young man, M. B—, a patient in an asylum in Paris, whose propensity it was to set fire to everything. It is to be inferred that it was associated with ordinary Mania. (Marc, vol. ii, p. 309.)

SECTION XII.—Dipsomania (*δίψος, thirst*).

Synonyms.—*Polydipsia ebriosa insana, Mania crapulosa, Oinomania; Dipsomanie, Monomanie d'ivresse, Manie ebrieuse* and *crapuleuse* (Fr.); *Trunksucht* (Ger.); *Sapoi* (Russ.).

Definition.—An uncontrollable and intermittent impulse to take alcoholic stimulants, or any other agent (*e. g.* opium and haschisch) which causes intoxication—in short, a *Methomania* (*μέθη, ebrietas*).

This is a form of mental disorder which, in an especial manner, requires to be discriminated from what may be termed a merely physiological condition, in which the human animal chooses to indulge in alcoholic beverages to excess. On the one hand, the admission of this disease into the department of mental pathology does not need to make us conclude that there is no such thing as intemperance without disease; and, on the other, the fact that the abuse of alcoholic drinks has, oftentimes, no disease to plead in its excuse, must not lead us to the opposite extreme of denying that a truly diseased cerebral condition may exist, the result of which is inebriety.

Symptoms.—How, then, shall we distinguish the two conditions, when the result—intemperance—is the same in both? First (as in all cases of alleged Insanity), by observing whether there are any symptoms present which can be referred to primary disorder of the nervous system, that is to say, other symptoms than those which, as in ordinary drunkenness, can readily be accounted for by the prolonged indulgence in alcohol. The family psychological history, again, is of great importance. Cases in which an insane parent has a drunken son point strongly, of course, to disease. The development of the appetite for stimulants, in early life, is another indication in the same direction. But, to come more closely to the circumstances attending the habit itself, the prominent feature of this propensity is its *irresistibility;* the thirst for drink is the tyrant which overbears all the higher emotions, and blindly leads the oinomaniac to a course against which his reason and his conscience alike rebel.

As Dr. Skae has so clearly pointed out in his Report for 1872, the dipsomaniac's paroxysms are preceded by a general perturba-

tion of the system. He perspires; the pulse is soft, but quiet. He is sleepless, uneasy, prostrate, and so craves a stimulant. Between his attacks he differs from the mere sot in often positively disliking beer or spirits, and is a useful member of society. It is true, however, that the drunkard may become a dipsomaniac, and a dipsomaniac so injured by drink that he sinks at last into a condition nearly resembling in appearance that of the ordinary drunkard, and then the broken-down aspect, the feeble tremulous limbs, the pale or leaden-coloured visage, watery and lustreless eye,* the deadened affections of the heart, the loss of truthfulness, the weakened intelligence, the dangerous irritability, are common to both. The difficulty, in many cases, is to determine whether the uncontrollable condition present is *acquired* or *original*. Moreover, in the former case, although truly an Insanity from drink, it must not be confounded with Alcoholic Insanity or with *delirium tremens*. The loose sense in which these terms (and *mania à potu*, &c.) are constantly employed by writers and even in the medical dictionaries, is very embarrassing to the student.

Dr. Hutcheson, who was among the first to draw especial attention to this disease, described it under three forms—the acute, the periodic, and the chronic.

"The *acute* is the rarest of the three. We have seen it occur from hæmorrhage in the puerperal state, in recovery from fevers, from excessive venereal indulgence, and in some forms of dyspepsia.

"The *periodic*, or paroxysmal form, is much more frequent than the acute. This is often observed in individuals who have suffered from injuries of the head; females during pregnancy, at the catamenial period, and afterwards; and in men whose brains are over-worked. Like the form about to be mentioned, it is frequently hereditary, being derived from a parent predisposed to Insanity, or addicted to intemperance. In such cases the probability of cure is very small. The individual thus afflicted abstains for weeks or months from all stimulants, and frequently loathes

* See the description given by Dr. Peddie, of Edinburgh, in his pamphlet, 'The Necessity for some Legalised Arrangements for the Treatment of Dipsomania, or the Drinking Insanity.' See also Skae, in 'Edinburgh Medical Journal,' 1858; Christison, 'On some of the Medico-legal Relations of Intemperance,' 1861; A. Foville, 'Archiv. gén. de Méd.,' Oct., 1867; Dr. Mitchell, 'Journal of Mental Science,' Oct., 1872; On "Inebriate Asylums," see *idem*, July, 1867. The writings of Salvatori, of Moscow, should not be forgotten, "Commentatio Pathologica de Ebriositate Continua, Remittente, et Intermittente," in 'Comment. Soc. Phys.-Med. apud Univ. Mosquens Instit.' (1817), vol ii, part i, pp. 260, 290; and the work of Brühl-Cramer, 'Ueber die Trunksucht' (Berlin, 1819). See also an able article in the 'British and Foreign Medical Review,' Oct., 1858.

them for the same period. But by degrees he becomes uneasy, listless, and depressed, feels incapable of application, and restless, and at last begins to drink till he is intoxicated. He awakes from a restless sleep, seeks again a repetition of the intoxicating dose, and continues the same course for a week or two longer. Then, a stage of apathy and depression follows, during which he feels a loathing for stimulants, is the prey of remorse, and regrets bitterly his yielding to his malady. This is followed by fresh vigour, diligent application to business, and a determined resolution never again to give way. But, alas! sooner or later the paroxysm recurs, and the same scene is re-enacted; till ultimately, unless the disease be checked, he falls a victim to the physical effect of intemperance, becomes maniacal or imbecile, or affected with the form of the disease next to be mentioned.

"Of all the forms of Oinomania the most common is the *chronic*. The causes of this are injuries of the head, diseases of the heart, hereditary predisposition, and intemperance. This is by far the most incurable form of the malady. The patient is incessantly under the most overwhelming desire for stimulants. He will disregard every impediment, sacrifice comfort and reputation, withstand the claims of affection, consign his family to misery and disgrace, and deny himself the common necessaries of life, to gratify his insane propensity. In the morning, morose and fretful, disgusted with himself and dissatisfied with all around him, weak and tremulous, incapable of any exertion either of mind or body,—his first feeling is a desire for stimulants, with every fresh dose of which he recovers a certain degree of vigour both of body and mind, till he feels comparatively comfortable. A few hours pass without the craving being so strong; but it soon returns, and the patient drinks till intoxication is produced Then succeed the restless sleep, the suffering, the comparative tranquillity, the excitement, and the state of insensibility; and, unless absolutely secluded from all means of gratifying the propensity, the patient continues the same course till he dies or becomes imbecile."

The grand characteristic, then, of the disease under which the oinomaniac labours is, the irresistible impulse by which he is impelled to gratify his propensity; being, during the paroxysm, "regardless of his health, his life, and all that can make life dear to him," and the proof that it is really a disease must be based on the symptoms already enumerated.

Prognosis.—Unfavorable.

The chronic form is very intractable. Hutcheson states that he has only seen one case completely cured; and seclusion for two years was in this instance required. He most justly observes, that such unfortunate individuals are sane only when confined in an asylum.

Though not now on the subject of treatment, we may remark, that in a case under our care we have succeeded in inducing abstinence by substituting, for a considerable period, Chloric Æther and Nux Vomica for brandy, and at the same time prescribing general remedies, especially Bismuth and antacids, to correct the condition of the digestive organs, upon which the craving for intoxicating drinks in part depended. The result of this case, which for long proved intractable, is the more

interesting from being hereditary. Morel, in his work 'Des Dégénérescences' (p. 118), says, "I have never known those patients cured whose alcoholic tendencies originated in hereditary predisposition transmitted by their parents. Their discharge from the asylum was immediately signalised by the repetition of the same acts."

It has been urged as a reason against the condition now described being truly insane, that when the patient is sober he does not really and heartily determine to withstand the temptation; and that if he did so, he could master the propensity. Of course, this is true of many drunkards. We are certain it is *not* true in the majority of cases of genuine Dipsomania; although we admit that, occasionally, the power even to resolve may be partially paralysed.

SECTION XIII.—Mania.

Passing from the consideration of the several so-called Monomanias, or diseased manifestations of somewhat isolated propensities, we may next consider a more general affection, viz. Mania.

Synonyms.—*Μανία* (Gr.); *Mania* (Lat.); *Manie* (Fr.); *Pazzia* (Ital.); *Tobsucht, Wuth, Tollheit* (Ger.); *Raving Madness.*

This, perhaps the most interesting and best recognised form of mental disease, has been usually treated of by writers as essentially a disorder of the reasoning faculties. Dr. Prichard classed it under Intellectual Insanity. We are disposed, however, to regard it as belonging primarily to the affective group, although eventually involving the intellect, and therefore constituting an affection of the whole mind.

Definition.—Mania is a term understood in various senses, and it doubtless includes many cases presenting very different symptoms; but in its primary sense, that of Raving Madness, it may be properly regarded as passion arising from disease, and more prolonged in its operation. Even anger itself was characterised by Horace as a short madness—*ira furor brevis est;* and several writers, including Pinel, have endorsed this sentiment of the poet. "He who," observes this writer, "has identified anger with fury or transient Mania, has expressed a view, the profound truth of which one feels disposed to admit, the more one observes and compares a large number of cases of Acute Mania. Such paroxysms are rather composed of irascible emotions than any

derangement of the understanding, or any whimsical singularities of the judgment."

No one will deny that the man who is in a passion, has his feelings rather than his reason disturbed in the first instance; yet, when thus aroused, how confused is his language, how distorted is his judgment! He hurries from one unfinished sentence to begin another; his ideas flow too quickly to allow of their sufficiently rapid expression by language. But although Mania, in many instances, is a prolonged anger, it may, likewise, be altogether pleasurable in its manifestations, presenting a condition of exhilaration and uncontrollable excitement, in which the patient is rather mad with joy than anger. It is, however, not the less emotional in character, and it is so far a state of irritability, that a very slight amount of opposition would be followed by a display of angry passion.

Some of the cases given by writers as illustrative of instinctive Mania, or of a destructive impulse, may, perhaps, be considered as typical examples of Mania in its pure, uncomplicated form;—a form sufficiently well marked to allow of Dr. Prichard's observation, that "the term Raving Madness may be used with propriety as an English synonym for Mania. All maniacs display this symptom occasionally, if not constantly, and in greater or less degrees."

While, therefore, we regard Mania as usually having its origin in disordered emotions, we fully admit that the whole mind generally suffers in consequence, and that confusion then becomes universal throughout the "countless chambers of the brain."

Symptoms.—Mania has, in almost all instances, its stage of *incubation;* although, as compared with Melancholia and Dementia, the transition is usually less gradual from slight to unmistakable mental disorder.

There may be excitement as the first obvious symptom of deranged mental health.

In a large class of cases, the premonitory symptoms are characterised by gloom and despondency (*Stadium Melancholicum*)—the reverse of the supervening maniacal excitement.

Occasionally, there are cases, as Esquirol has observed, in which persons "sink into a deep stupor, appearing to be deprived of every thought and idea. They do not move, but remain where

they are placed, and require dressing and feeding. The features of the face are contracted, and the eyes red and glistening. Suddenly, Mania bursts forth in all the strength of its delirium and agitation."

The physical symptoms by which a state of Mania is ushered in also vary. In the majority of cases, there is a more or less marked departure from the individual's former state of health. Insomnia is one of the most important symptoms. The condition of the tongue, skin, and liver, is usually more or less deranged. There may be but slight fever.

Sometimes, however, the invasion of Mania is characterised by acutely febrile symptoms. There are also, in some instances, decided indications of cerebral congestion.

In not a few instances, the symptoms are referred by the patient to the abdominal organs; in some, a remarkable sensation is experienced at the epigastrium, extending thence upwards to the head.

We may here refer to a case in which an attack of Mania was threatened, but was warded off by timely treatment. There was in this instance, at this early stage, a slight loss of memory. What the patient chiefly complained of, however, was a strong, and to him unaccountable, tendency to be *excited*. He could not sleep. He was alarmed at his tendency to become exhilarated. His head was hot, and he would, of his own accord, get up in the night to bathe it. He complained of pain and a sense of weight at the pit of the stomach, which was full and resisting. The conjunctivæ of this patient were not injected, but bright; the pupils rather contracted; the tongue pale and rather dry; lips congested; pulse about 80, of moderate volume, and soft; appetite very bad; bowels constipated. It may be remarked, in passing, that the symptoms were relieved by prescribing alteratives to remove the obviously deranged condition of the digestive organs, followed by opium at bed-time, and the application of cold to the head.

The symptoms displayed when the disorder is fully developed are by no means uniform, being determined, in part, by the patient's natural constitution of mind, and partly by the degree in which the several faculties and emotions are relatively disordered. The perceptions of the patient, whether primarily or secondarily affected, may, by their morbid action, convey to him a hallucination or illusion which shall be sufficient to determine the particular character of his conduct. We have witnessed, in a patient, the most violent actions and the most abusive language result from the fear that those who approached her would tread on certain celebrated personages whom she saw in miniature form before her, on the floor of her apartment; and it is of very fre-

quent occurrence for a maniac to perceive, in his medical attendant, the lineaments of some other person towards whom he entertains vindictive feelings, and, in consequence of this illusion, to vent his rage upon him in every possible way.

Innumerable are the delusions which may affect the course of thought and conduct pursued by the patient. Should he believe that he is about to reform the state of society (the prominent symptom of Dr. Arnold's "Scheming Insanity"), he overflows with benevolent plans, projects, and intentions, all devised for the certain amelioration of mankind. In all this there seems little to correspond with the description of Mania with which we set out, but if we cannot listen to his plans until the description is concluded, or if he should be thwarted in his endeavour to carry into execution these impracticable schemes, a violent explosion of passion, accompanied by imprecations and perhaps a display of his pugilistic powers, will probably be the termination, for the moment, of his expansive philanthropy; and the seclusion room becomes the receptacle of the reformer of the world. He is bent on destroying whatever lies within his reach; his clothes, if not sufficiently strong, are sacrificed to his rage; and the scraps of paper on which he has so ingeniously designed the means by which his ideas may be realised, the letters to the Queen and Prime Minister in which he has so conclusively set forth the remedies for the relief of every human ill, are now, it is not unlikely, torn into a thousand pieces. If to this condition be added dirty habits, or the dirt-eating propensity, a truly deplorable picture is presented of what the "lord of the creation" may become when afflicted with mental disease. Dangerous violence, destructiveness in regard to senseless objects, a total disregard of cleanliness and decency, vociferous denunciations, loud and threatening language, rapid and impetuous utterance, harsh voice, imprecations and stamping with the feet, now mark the climax of the paroxysm the madman labours under in this marvellous disturbance of the emotions, involving, as it does, the overthrow of the moral, and the perversion of the intellectual portions of our mental constitution.

The face, and the whole external man would tell, were the patient silent, of the commotion which is raging within. The tension of the muscles, the contracted brow, the flushed features, the brilliance and congestion of the eyes, the head thrown back

in audacious contempt, or fixed in a menacing attitude, the disordered or even bristled hair, the puffing of the neck, and congested veins,—all indicate the mental tempest by which he is agitated.

But it must not be inferred, from these descriptions, that every case of Acute Mania presents either such well-pronounced symptoms, or even precisely the same passions of the soul in diseased activity. Fortunately, Raving Madness is to be found at the present day much better described in books than observed in our asylums for the insane, thanks to the altered system of treatment, and perhaps also to an altered—that is to say—more asthenic phase of disease in general. The statement made by Arnold in regard to a patient labouring under "Phrenitic Insanity," that "he raves incessantly, or with short and those rarely lucid intervals, either about one or various objects; and laughs, sings, whistles, weeps, laments, prays, shouts, threatens, attempts to commit violence either on himself or others, or does whatever else the nature of his delirium prompts him to," is not applicable to nearly so large a proportion of cases of Maniacal Insanity as it was when Arnold wrote.

Perhaps the most remarkable fact, in regard to the connection between the mental symptoms developed in Mania, and the physical health, is the slight degree in which the latter is endangered, or even (it may be) materially disturbed. Careful notes taken of the state of the tongue, pulse, the renal secretion, and the alvine evacuations in a condition of great excitement, and compared with notes taken of the same patients when convalescent, will sometimes fail to show that change which would appear to be commensurate with the altered condition of the patient's system. This statement must, of course, be so far qualified, that the muscular exertion and rapid locomotion connected with the period of actual violence, necessarily induces some temporary changes in the physical state, such as heat of the skin and acceleration of the pulse, which, however, cannot be regarded as other than the natural effect of certain movements, which effect would take place in individuals performing them, although in perfect health. And it is further sometimes observed, when physical disorder has been marked, that, in the change from excitement to tranquillity, there is a *persistence* of morbid physical phenomena; that is to say, some morbid physical symptoms were not wanting in the maniacal

stage, but they do not pass away immediately on the subsidence of the excitement;—a fact which, to some extent, is explained by supposing that the physical symptoms induced by the cerebral irritation, have not had time to subside, although their immediate cause has disappeared.

The above-mentioned absence of symptoms in regard to the pulse, temperature, &c., is, however, exceptional; and we believe that, in a very early stage (often prior to admission into an asylum), well-marked physical symptoms are rarely wanting; afterwards, the system begins, as it were, to tolerate the excitement to which it is subjected.

A case lately seen at the house of the patient, illustrates the foregoing, well; and it illustrates another fact, which is, that in the onset of the attack, the symptoms may be those chiefly of irritation, while, in the course of a few days, they become much more decidedly febrile in character. The patient—a young man—complained, in the first instance, of feeling generally ill, and was unusually nervous, fearing to sleep alone, &c. His pupils were dilated, the conjunctivæ pale, the water copious and light in colour, and the pulse about eighty. In a day or two, the mind became more affected, and the symptoms of Acute Mania set in. With these psychical symptoms, the conjunctivæ became intensely injected, the urine scanty and high coloured, the pulse more frequent, and the head very hot. The tongue, which was foul before, became increasingly so, and red. For several days, the patient was acutely maniacal; after which, the excitement abated, and, coincidently with this abatement, the tongue became cleaner, the pulse slower, the conjunctivæ paler, and the urine more copious.

What, then, are usually the evidences afforded by the physical symptoms of the patient, of his maniacal condition? Drs. Leuret and Mitivié made some very careful observations on the *pulse* in Mania, and arrived at the conclusion, that the mean number of pulsations in a minute is 90, being about 15 above the average of the healthy adult.* According to Dr. Conolly, the pulse is frequently quick and feeble, seldom below 96, though it may be only 80, often as high as 120, variable, and readily increased in rapidity. It is difficult, however, to know, as has before been intimated, how much of this increased frequency is due to muscular exercise and other accidental circumstances, and how much to the disease itself. Jacobi thinks, that the condition of the pulse in Mania does not so much indicate the state of the patient's mind, as the physical disorder existing with, and

* Dr. Guy made observations on the pulse in fifty persons free from mental or bodily disease; and, when compared with the results of Leuret and Mitivié, it would appear, that "it is only between 80 and 90 pulsations that there is any great excess on the side of the insane."—'Forensic Medicine,' p. 270.

probably the cause of it. He regards the observations of Leuret and Mitivié as defective, and appears himself to have arrived at negative, rather than positive results. Dr. Foville has made observations on the frequency of the pulse in the insane generally. He took sixty-two patients (male and female) promiscuously, chronic and acute cases, and found the average pulsations to be 84 in a minute. Guislain thinks, that the cerebral excitement of the insane is generally proportioned to the quickness of the pulse. "Occasionally," he adds, "it is slow, as in some cases of Melancholy and Ecstasy, but then there is a peculiar rhythm; each pulsation, even when the contraction of the heart does not indicate disease, presents a certain energy, in some degree convulsive. Occasionally, the pulse is slow, from a diminution of cerebral excitement.* Scarcely ever is there either hardness or fulness of the pulse." (See sphygmographic tracings of the pulse at the close of the chapter.)

The *skin* is sometimes moist, and offensive to the sense of smell, sometimes dry and harsh. The former condition is, occasionally, the cause of as diagnostic an odour as the never-to-be-

* Although the appearances presented on ophthalmoscopic examination must, like other symptoms, be subject to much variation, and although the vascularity of the optic nerve is not always an index of that of the hemispheres, we may state that Dr. T. C. Allbutt, in his work 'On the Ophthalmoscope in Diseases of the Nervous System' (1871), gives the result of his own examination of 51 cases of Mania in the West Riding Asylum as follows:—In 25 the state of the optic nerves was symptomatic of intra-cranial disease, in 13 it was of doubtful meaning, and in 13 there was either no changes at all, or only local changes, such as glaucoma, &c. In the majority of these cases organic disease was suspected. Dr. Allbutt found that in Mania, whether dependent upon organic lesion or only functional in character, the back of the eye, *if observed within a few days after a severe paroxysm, presented a vascular suffusion and pinkness, so great as to obscure the disk.* No exudation was observed in these cases unless some permanent mischief existed. Further, *during the paroxysm itself* the disk was *anæmic* (spasm of the vessels ?). He refers the permanent changes in the disk "either to stasis from obstruction to the intra-cranial circulation, with consecutive atrophy, or to *ramollissement*, ending in simple white atrophy; or they may present changes of a mixed character." See also the observations made by Dr. Nowes ('American Journal of Insanity,' Oct., 1871) and by Dr. Monti ('De l'Ophthalmoscopie dans les Maladies mentales'). We may here supply an omission made under "Melancholia," by adding that Dr. Allbutt found in 17 cases of Melancholia and Monomania that the optic nerve and retina were healthy in 10, doubtful in 4, and diseased in 3. Dr. Allbutt very frequently noted anæmia of the retina in Melancholia. Dr. Monti says that in Melancholia and Mania in an early stage, and particularly in the former, the results are negative, but if there is decided excitement, retinal congestion is often met with.

forgotten effluvium of a variolous patient; and is then immediately observed on entering a room where the maniac has been for some hours, especially during the night.

The *bowels* are sometimes relaxed for a considerable period in Mania, but constipation is more usual; whether loose or confined, there is very frequently decided evidence of gastric and hepatic derangement. The dirty habits of maniacs are due to careless indifference or design, not, as in General Paralysis, to loss of control over the *sphincter ani*. Dr. Jacobi found, out of fifty cases, the bowels inactive in twenty instances, regular and of normal form in seventeen; while, in thirteen, the stools were decidedly unhealthy, and, in nine of these, irregularly relaxed and confined.

The *urine* is frequently sufficient in quantity, without being high coloured; at the same time, during an accession of violence, it is often more scanty, and deeper in colour. Some years ago, Drs. Sutherland and Rigby examined the urine of a large number of patients at St. Luke's, and found that, in 100 cases of Mania, it was of "dark colour" in 52, and deposited a sediment in 87 instances.* Contrary to the conclusion at which Erlenmayer arrived, namely, that the urine is generally alkaline in recent cases of Mania, Dr. Sutherland concludes that it is generally acid. Incontinence of urine is common, and is due to the causes referred to above in reference to the fæcal evacuations.

The *tongue* may be redder than it should be, its muscular tissue firmer, and its papillæ unduly prominent. Of 50 cases of Acute Mania examined in this respect by Jacobi, the tongue was in 17 instances very foul, white or tawny, grey or yellowish grey, but in no case actually dry, although it was frequently but little moist; in 16 cases the tongue was slightly furred, and in the remaining 17 it was quite clean. In the same number of cases, the breath was in 20 sweet, in 15 somewhat offensive, and in the same number decidedly so, in some of these being "exceedingly sour." In regard to the *saliva*, the same observer found out of 50 cases, that it was excessive in quantity in 21 instances (in 2 of which it was only so during the paroxysm), and slightly increased in 4.

As a rule, the *appetite* of maniacal patients is large, often

* For the chemistry of the urine and blood, see the chapter on Pathology.

excessive; sometimes more so at the onset, and during a paroxysm, than when the patient is calmer. A maniac may refuse food altogether, but he rarely persists so long as to occasion any danger. Referring to Dr. Jacobi's 50 cases, we find that in 23 the appetite was normal, in 13 it was voracious; in 7 it was at first poor, and subsequently excessive; in 3 it varied, in 2 the appetite was increased during the exacerbations, and in the remaining 2 it was very bad.

Thirst was a prominent symptom in 7 cases; in 9 there was less than usual; and the remaining 34 did not vary from a state of health in this respect.

In the majority of cases of Acute Mania occurring in women the *catamenia* are suppressed.

As regards *nutrition*, the patient generally gets thinner; the remark applies here that was made in regard to the pulse, that it may result from circumstances associated with, but not essential to, the disease. In some cases, there is marked emaciation. In 21 of Jacobi's 50 cases, there was very decided evidence of defective nutrition, and in 15 this was in some degree the case; in 15 cases there was more or less evidence of dyscrasia, and in 14 the complexion was sallow or earthy, with a dark areola under the eyes.

Extreme, and sometimes sudden, exhaustion, is a symptom always to be feared, and carefully to be watched, in the early stage of Acute Mania—while the gradual loss of flesh, so often observed, is not, even when very considerable, a circumstance which need occasion alarm, either as to the recovery of mind or body.

The diversity of symptoms in Mania may, to a great extent, be explained by the well-known fact, that an equal amount of excitement may result from two distinct and opposite conditions of the system; excessive nervous action often coexisting with deficient nervous power. This it is most important to bear in mind. One patient may be mad from an excess, another from a deficiency, of blood. The former may require depressants, the latter stimulants. There may be excitement and surplus nervous energy, and there may be a state of nervous debility and consequent irritative excitement, precisely opposite in its nature. We may very properly speak, therefore, of *Sthenic* and *Asthenic* Mania, even when both are acute. To the former, the description

already given of the physical indications, more especially applies. In the latter, the pulse is often very feeble, although frequent; the tongue is decidedly pale, thin, flat, flabby, and indented at the edges; the lips pale; the conjunctivæ watery, and pale, or if vascular, not presenting the same bright red injection which is generally present in acute Sthenic Mania; the pupil is not so much contracted, and it may be dilated. In books a dilated pupil is sometimes mentioned as characteristic of Mania, but this is by no means the case; and, when it is present, we have usually found it in Mania of the asthenic variety.* The scalp may, or may not, be hotter than usual; and in regard to this, and other symptoms, it may be observed, that no just inference can be drawn from any one of them alone; they must be judged of in their entirety.

The late Dr. Bell of America in 1844 specially called the attention of the profession to a form of Mania in which the disease runs a rapid course and is attended by extreme exhaustion after excitement. In "Bell's disease" (as it has been called), the attack is sudden, and loss of sleep, delirium, and loathing of food are prominent symptoms. Others have called it typhomania. Dr. Bell makes no reference to the *délire aigu* of French writers, the acute delirious condition corresponding to the phrenitis of the ancients, which is distinguished from ordinary acute mania by more fever, more incoherence and inability to recognise those around, by its rapid course, extreme prostration, and frequently fatal termination, but we have no doubt Bell's cases belonged to this category. We should place under the same division seven cases reported by Conolly in the Lancet (1845), all of which proved rapidly fatal, one of which is thus described:

"A male patient, aged thirty-six, a coachman, lost his situation, and became maniacal in consequence, threatening the life of his wife, trying to get out of the window, and saying that the devil was in his room. When admitted, about a fortnight after his attack, he was thin, pale, restless; always talking incoherently, or singing; his tongue was white, but it soon became dry and coated, and then in a few days moist. At first he refused food, then took it freely; the bowels were

* Dr. Pliny Earle, however, in an excellent paper in the 'American Journal of Insanity' (April, 1854), observes:—In many cases of the most furious Mania and that too, not unfrequently, in robust or plethoric persons, the pupil remains of its natural size. Sometimes, it is even dilated. The cases in which it is generally most contracted are those of slender, nervous, perhaps debilitated persons, in whom there are various evidences of high excitability, and who not only tolerate but require a tonic, sometimes a stimulant treatment."

costive, his voice was hoarse, the pulse at first 96, soon afterwards 120, and always very feeble; he could give no distinct answers. Here was a case of recent Mania from a moral cause. Leeches were applied to the head, he had warm baths; croton oil was given when food was refused; the tincture of henbane at night, and after a trial of this medicine, porter; but he sank rapidly, became quiet and sleepy, and died ten days after admision."

Conolly's diagnosis bears out Bell's supposition that in some asylums, deaths from Acute Delirious Mania are ranked under ordinary Acute Mania. See several cases of *délire aigu* in Dr. Blandford's work, 'Insanity and its Treatment,' 1871, p. 220.

Recurring to ordinary Acute Mania it must be observed in regard to its subsequent course that it may either yield rapidly to treatment, may end in death by exhaustion, may recur in paroxysms in an intermittent form; may become chronic, or may terminate in Melancholia or Dementia.

It is generally said that one third of maniacal cases are intermittent. The paroxysm may return at various periods, being occasionally marked by very regular intervals as a month, a week, or two or three days. In the case of a female known to us, a maniacal paroxysm comes on every year. Schr. v. d. Kolk mentions the case of a patient who every other day about dinner-time became greatly excited and at last furious, but towards evening became calm, remaining quiet during the next day also and his speech betraying but slight mental confusion. In another case the attacks came on every third day during four years. Such short intermissions must be distinguished from those longer periods of complete recovery which are designated "lucid intervals" (p. 27). It should here be observed that in Mania the remissions are rarely the same as regards the period of the day as in Melancholia, in which the exacerbations so frequently take place in the morning. With the maniac the night is often marked by great excitement, the patient who went to bed tolerably calm awaking from sleep wild and incoherent, while the day again may begin with comparative tranquillity. When Mania becomes *chronic* (*die Verrücktheit*, Ger.), we witness an almost hopeless form of Insanity which is only too common in our asylums. The morbid phenomena of sensation are now often strikingly exhibited.

Many of the cases we have already given under Delusional Insanity and Monomania are usually classed under the chronic stage of Mania. It is unnecessary to describe further the delusions and hallucinations arising in this state. For years the

physical health of such patients as well as their mental condition may remain almost stationary, and yet in a large number of cases the maniac has an ill look, a haggard expression, makes little red blood, is cachectic, and although he may not attract any special attention as being out of health, and, indeed, has not any prominent morbid symptom, he would, were he placed by the side of a man enjoying robust health, present a sufficiently striking contrast. He would look etiolated.

Mania may pass, as we have said, into Melancholia; and if these two conditions alternate, it assumes the unfavorable form of circular Insanity referred to at pp. 146, 242. A lady at the Retreat had for five years attacks of excitement and depression on alternate days. Or again, the patient may lapse into Dementia, to degenerate into which it may be said that Mania manifests a constant tendency. Indeed, Chronic Mania when advanced is so little distinguishable from Dementia, that the mental condition which one physician would call the former, another would designate as the latter. Of 49 cases of Mania admitted into the York Retreat which ultimately proved fatal, the following was the mental state of the patients at death. In 30 the form of disorder was unchanged, 8 having, however, decidedly improved, while 22 were no better. In 19 the form had changed, 16 into Dementia and only 3 into Melancholia.

It fares, indeed, with the patient after an attack of Mania, as with a city or garrison after the horrors of an assault. The milder but more permanent supremacy of the enemy may succeed; or the whole may present but a heap of smouldering ruins; or the re-action of native strength having repelled the foe, there may be more or less of obvious dilapidation to mark the fierceness of the conflict.

Ætiology.—See the causes of Insanity in general at p. 57.

Prognosis.—Unfavorable in Acute Maniacal Delirium (*délire aigu*). Favorable in ordinary Acute Mania. A noisy boisterous condition is usually recovered from. (See Prognosis, p. 145.)

The mortality at the Retreat of those admitted in a state of Mania during forty-four years was about 4 per cent., while in Melancholia it was much more, viz. nearly 7.

Of Mania arising in connection with Epilepsy, General Paralysis, and the puerperal state, we shall have to speak in a subsequent chapter.

SUPPLEMENTARY NOTES.

I. SPHYGMOGRAPHIC TRACINGS OF THE PULSE IN THE INSANE.—It is necessary to put the student on his guard against supposing that complete uniformity of character attaches to the radial pulsations observed in different mental conditions, still less that those designated by ordinary terms in use, "Melancholia," "Mania," &c., so accurately indicate distinct states of the system, that the circulation will offer characteristics in these several states of a uniformly definite nature. The condition of the heart, irrespective of the mental state, must also be taken into account. At the same time there is sufficient uniformity to make these tracings of great interest, and our symptomatology of Insanity would be incomplete without this reference to them.

(*The following woodcuts and the lithographic specimens of handwriting should have appeared under the description of the Various Forms of Mental Disorder to which they respectively refer, but were not executed in time for that purpose.*)

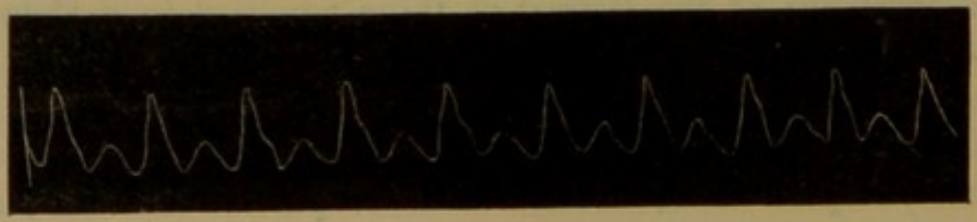
The pulse may, in different states of the system, present in the outlines obtained by the Sphygmograph various appearances which have been termed monocrotic, dicrotic, tricrotic, &c.

1. The pulse in *health* is tricrotic, as is shown in the following woodcut from Marey and Wolff (64 beats per minute):*

FIG. 1.

2. A dicrotic pulse (110 beats per minute) as seen in *fe er* is represented thus:

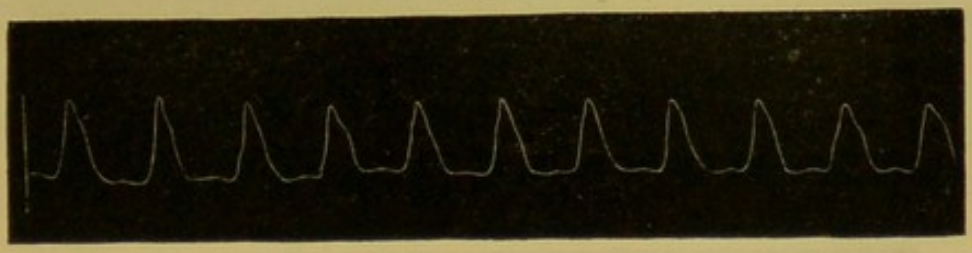
FIG. 2.



* "Beobachtungen über den Puls bei Geisteskranken," von Dr. J. B. Wolff, Sachsenberg; see 'Allgemeine Zeitschrift für Psychiatrie,' 1867, 1868, 1869.

3. A monocratic pulse, accompanying increased temperature and frequency of the pulse (140 beats per minute), is thus exhibited :

FIG. 3.



4. Of states of Insanity we first give tracings made in cases of *Dementia* :*

(*a*) In a patient æt. 18.

FIG. 4.

(*b*) In a patient æt. 45.

FIG. 5.

(*c*) In a patient æt. 37.

FIG. 6.

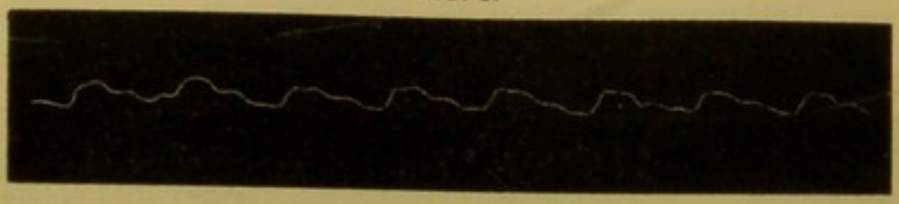
(*d*) In a patient æt. 34.

FIG. 7.

* This figure, as well as figs. 5, 6, 7, 8, 9, 10, 11, 12, 17, 18, 19, 20, are taken from Dr. Hun's article "On the Pulse in the Insane," in the 'American Journal of Insanity,' Jan., 1870; while for figs. 1, 2, 3, 13, 14, 15, 16, we are indebted to Dr. Wolff's contributions to the German Journal already referred to.

(*e*) In a patient, æt. 40.

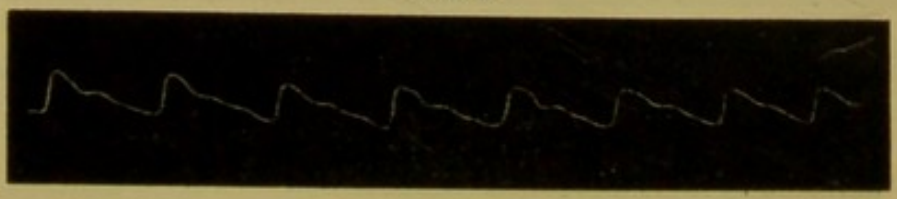
FIG. 8.



5. The following illustrate the state of the pulse in cases of *Melancholia* :

(*a*) Female patient, æt. 38.

FIG. 9.



(*b*) Female patient, æt. 28.

FIG. 10.

( ) Male patient, æt. 48.

FIG. 11.

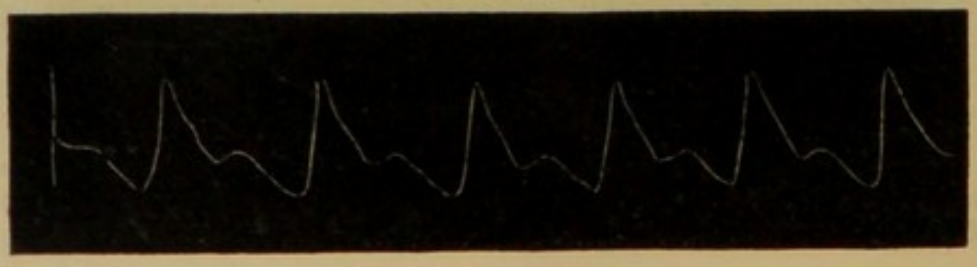
(*d*) Male patient, æt. 51.

FIG. 12.

6. The following tracings exhibit the character of the pulse in patients labouring under *Mania* :

(*a*) Case of a man exhibiting slight symptoms of Mania.

FIG. 13.



(*b*) When excited, this patient's pulse gave the following tracing:

FIG. 14.

(*c*) Still more excited and angry, his pulse presented the subjoined appearance:

FIG. 15.

(*d*) At a yet higher pitch of madness and quite unable to command himself (wo er den Groll nicht mehr zurückhalten kann und sich mit bitteren Worten Luft macht), the following tracing was obtained:

FIG. 16.*

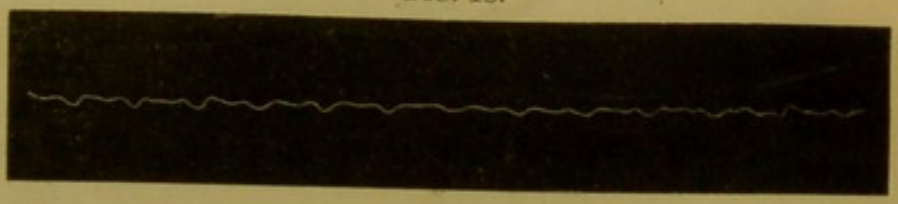
(*e*) Male patient, labouring under Acute Mania, æt. 40.

FIG. 17.

* In this case the pulse, it will be observed, is tricrotic. Dr. Hun thinks that we should expect to find it nearly tricrotic in the early acute stage of Insanity, and that as this stage passes off, and Mental Apathy and Dementia succeed, the pulse will become dicrotic and at last monocrotic, as the result of "paralysis of the sympathetic system." (Op. cit., p. 336.)

(*f*) Another case of Acute Mania. Male, æt. 28.

FIG. 18.



(*g*) Case of Chronic Mania. Male, æt. 36.

FIG. 19.

(*h*) Another case of Chronic Mania. Male, æt. 38.

FIG. 20.

To the foregoing we add the gist of the observations made by Dr. Hun:—"The pathological pulse of the Insane always tends towards the dicrotic or monocrotic type, being never tricrotic in uncomplicated cases (*see* note.) It becomes more characteristic as the mental condition degenerates, and assumes its typical form in the most profound state of Dementia. . . . . An analysis of the above traces shows two points of difference between them and the normal type; (1) a loss of tricotism, with a marked tendency to the dicrotic and monocratic form; and (2) a flat top in place of the acute angle found in health and febrile diseases." As the former occurs in fever with elevation of temperature, Dr. Hun regards a dicrotic pulse *without* abnormal rise of temperature, as one of the symptoms of Insanity.*, (Op. cit., p. 330.)

II. **HANDWRITING AND COMPOSITION OF THE INSANE.**—We proceed to explain the accompanying *facsimiles* of the handwriting of the Insane, the writers having mostly been inmates of the York Retreat, under Dr. Kitching's care, when the author was attached to that Institution, or the Bootham Asylum, York, under Dr. Needham's charge.

PLATE III.—Fig. 1 represents the handwriting of a patient full of delusions, a chronic incurable case. We recently conversed with him for about twenty minutes without his manifesting any incoherence or delusion; but, on leaving the room, he called us back to inquire about a foreign town, assigning, as a reason, that he was a passport agent. He has written an enormous number of short notes to his friends,

* For the character of the pulse in General Paralysis and Epileptic Insanity see the sections treating of these disorders.

PLATE III.

Fig. I.

The Friends' Retreat. 3rd Mo 24
May 26th, 1836.

Dear Friend,

I am humbly of opinion
Your Character is bad.

I am
Respectfully
Yours &c
"a False Imprisonment
for Debt"

P. S. I am "a sinner saved by grace alone"

Fig. 2.

Court of Common Pleas
Retreat and others DR to
~~Chromium~~ For the manufacturing
of various Metals, Gold, Silver,
Iron, Tin, and Copper.

John Rowlands and Family 3 Islands
several Lots of rare gold probable
200 and a great number of small
nuggets for labour probable 12 to 15
Thousand value Red Salt formation
Gosforth of Castle Howard
200 Quadrillions Edinburgh
Wilson of Hill Top Colony
2 Thousand 2 Quadrillions.

Fig. 1.

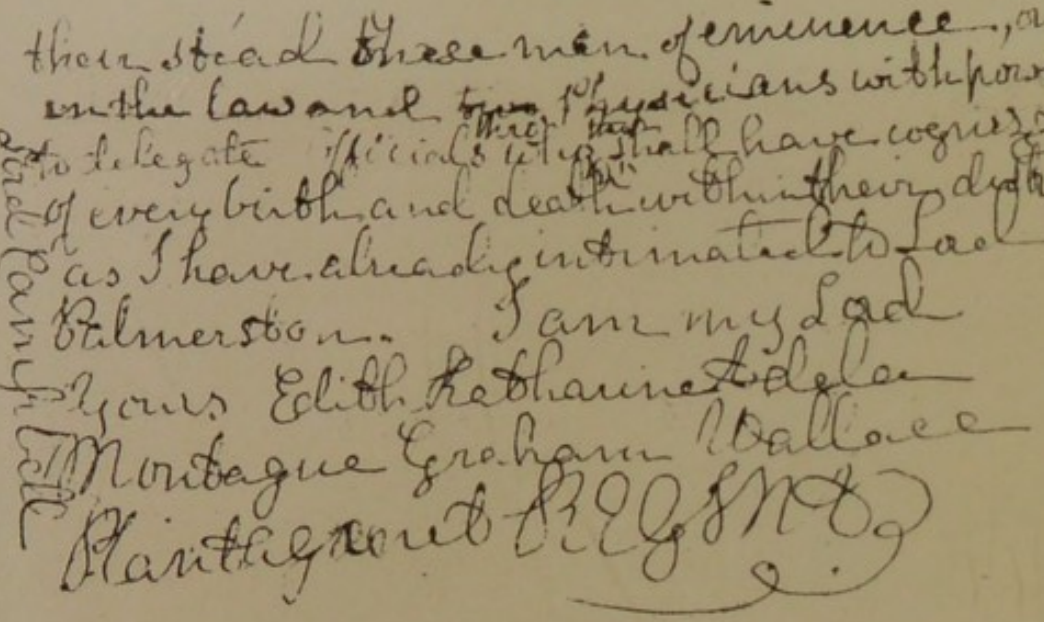


Fig. 3.

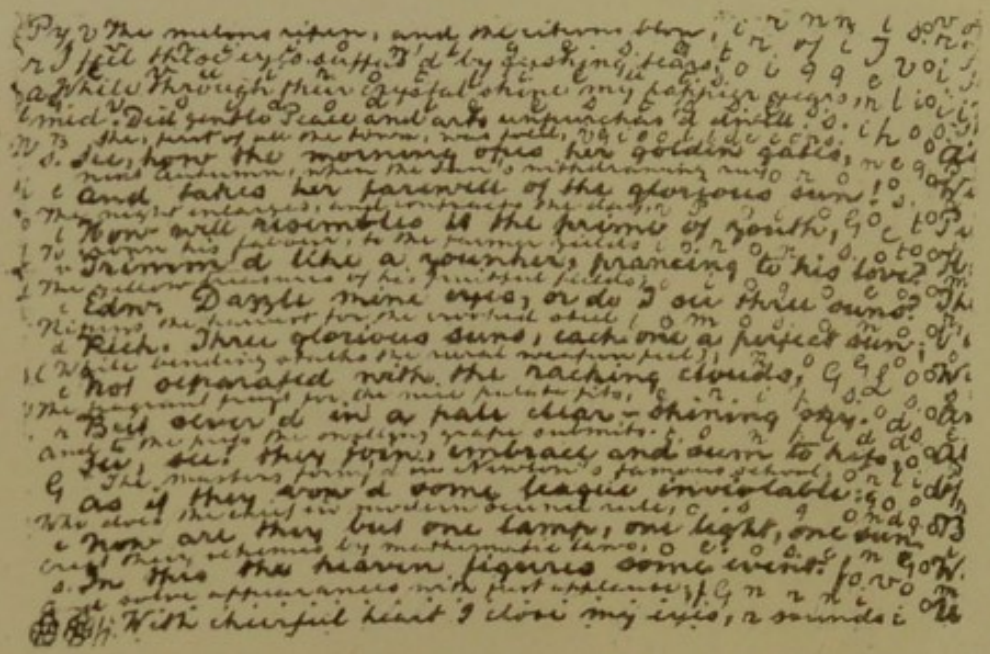


Fig. 2.

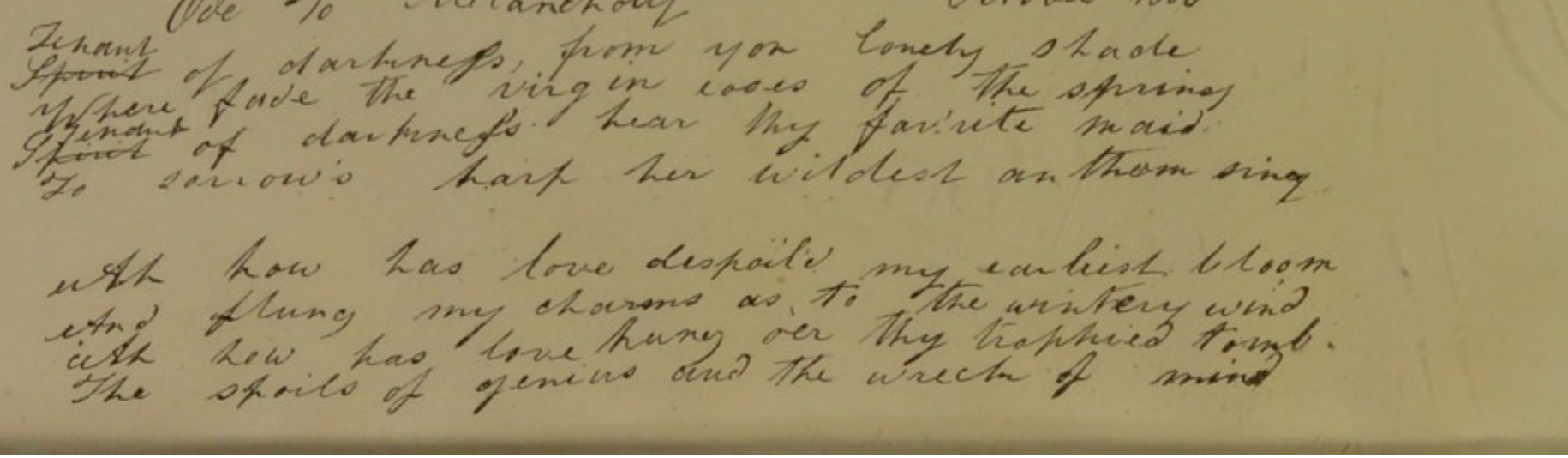


PLATE IV.

Fig. 1.

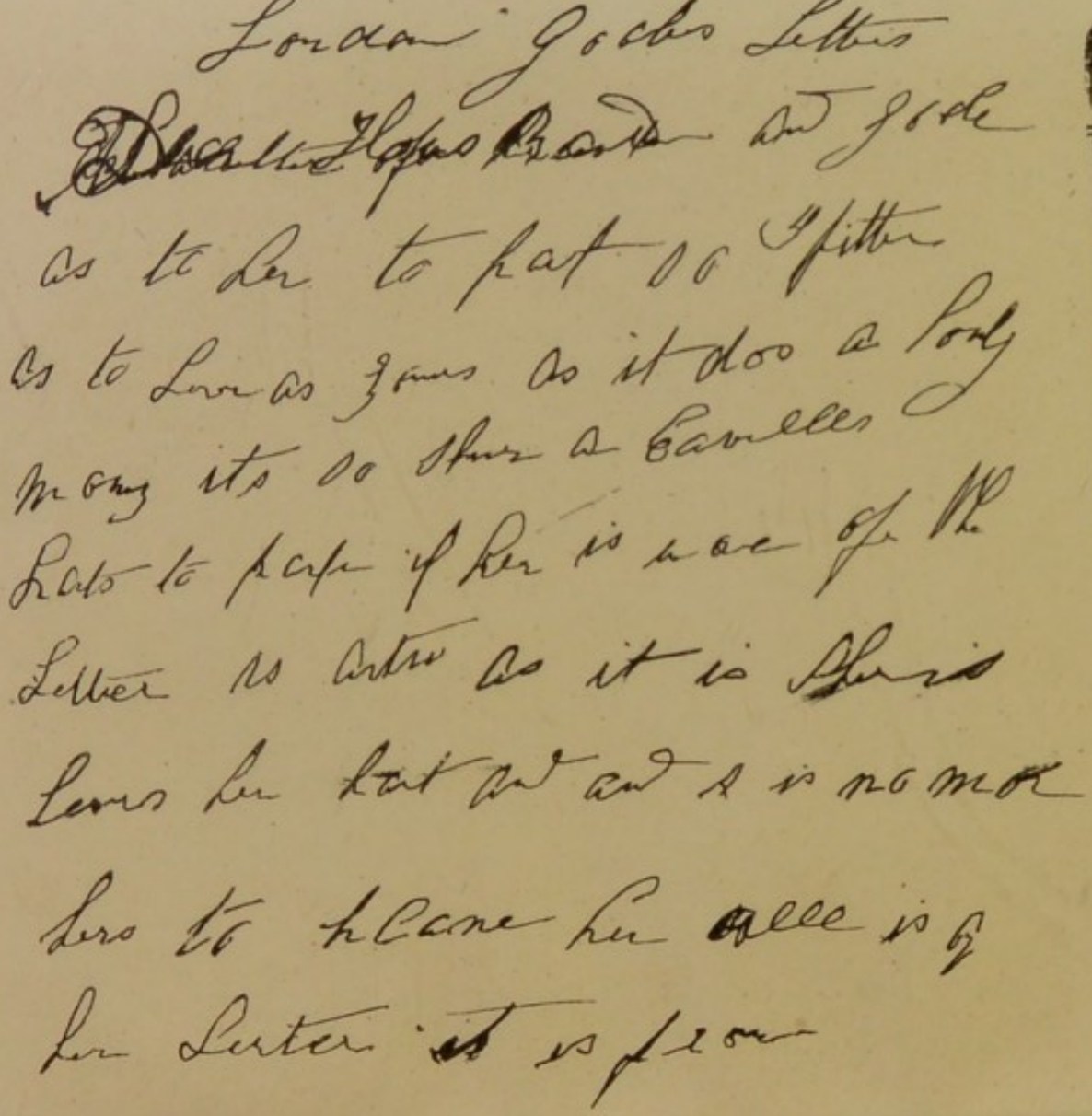


Fig. 2.

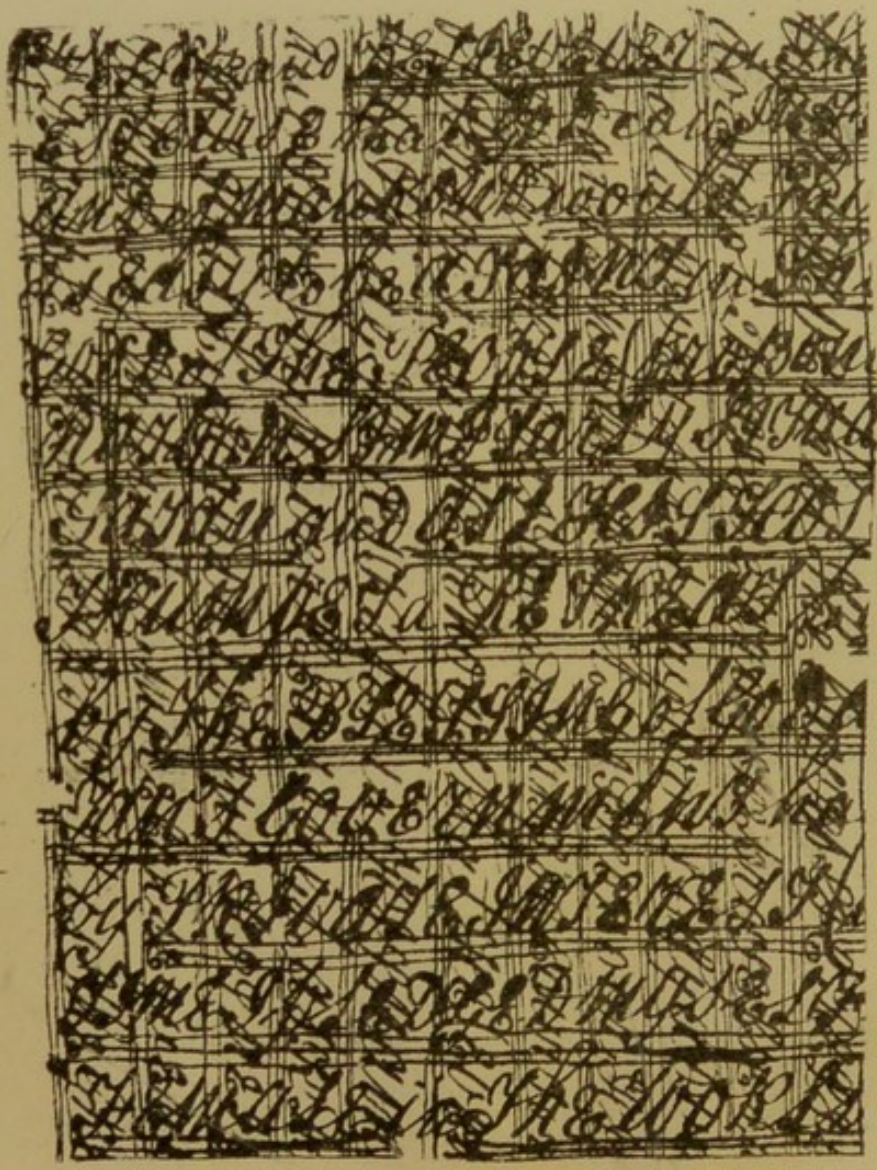


PLATE V.

and to the Queen and Prince Albert, very similar in character, and referring, with scarcely an exception, to his detention. Although thoroughly and hopelessly deranged, he is able to dispense medicines at the Retreat. There is usually much more jumble and dislocation of ideas in his conversation than in his letters. This is often the case in Delusional Insanity, whereas, in well-marked Dementia, the proof of incoherence is sometimes more easily obtained by making the patient write.

Fig. 2 is the writing of a fellow-patient also full of delusions, whose insanity is as chronic and incurable. He maintains he knew Wilberforce, Pitt, and many others. The entries he has made in this specimen are continued at considerable length. His delusions about money, and the enormous figures he mentions, mark a class of cases of Delusional Insanity which are distinguished from those cases of General Paralysis with similar delusions, by the dogged and earnest persistence with which they consistently maintain them. The greater mental weakness of a general paralytic does not allow of the same logical consistency in pursuing his delusions to their legitimate end.

The small neat handwriting is noticeable, and it is quite free from any of those indications of a patient labouring under General Paralysis, exhibited in Plate VI. We have before us, also, some very neatly executed pencil copies of flowers by the same patient.

PLATE IV.—Fig. 1 represents the handwriting of another incurable case in the Retreat, the patient labouring under the delusion that she is a royal personage.

Fig. 2 is written by a lady in the Retreat in a state of profound Melancholia, and consists of two verses of an "Ode to Melancholy," not without some poetical beauty.

PLATE V.—Fig. 1 forms an excellent contrast to the preceding specimens, being written by a female of moderate education, while the subject of Acute Mania. We are indebted to Dr. Needham, of the Bootham Asylum, York, for this characteristic illustration, as also for those given in Fig. 2, and Plate IV, fig. 3, Plate VI, figs. 2 and 3, and Plate VII. Some years ago a male patient in the Retreat, in a state of Active Mania, and even violent excitement, not accompanied, however, by such a delirious flow of ideas as to cause incoherence, wrote the following :—

GEOLOGY.

Geology is certainly almost Wholly of Modern Creation !—It may be its Misfortune —that "the *Classic Page*"—has never dwelt—upon it!—It forms undoubtedly no Theme for the Wisdom of Plato—or the Eloquence of Demosthenes! It can boast of no noble Inheritance from *Ancient Philosophy !*—no Illustrious Pedigree in a Proud Antiquity. It has received no Contribution from *Euclid* or *Archimedes !* Its Province is mere |MATTER. Yet with all these LITERARY Disadvantages it stands upon an Eminence in Abstract Utility.

Above all *GREEK*—above all ROMAN *Fame.*

Other Sciences administer—in their Single and Proper Sphere to the wants and pleasures of Mankind but Geology is the Universal Servant of the ARTS;—and almost the Greatest Contributor to HUMA Comfort Wealth HAPPINESS and Convenience!!—The AGRICULTURIST—is indebted for HIS Implements to GEOLOGY! The Spade—and the PLOUGH!—The *Tube* and *Glass* of the ASTRONOMER!—The Instruments of the Mathematician!—The MACHINE of the Artizan—and the GOLD and SILVER of Commerce!—Alas! even that Villainous Saltpetre—Which Many a Good—Tall fellow Has destroyed. * * derive alike their Origin in Great

Part from GEOLOGY. The MINER—Supplies the *Laboratory* of the *Chymist*.—The *Museum* of the *Lapidary!* and all Wonders of Mineralogy. HE Furnishes the ARCHITECT with Materials, for the Palace—the cloud capt TOWER the CASTLE & the COTTAGE—HE Procures the COAL Black Diamonds—that diffuses Health and Cookery through our dwellings—the FIRE that Warms us!—and Facilitates the Fruits of HIS Toil—the Acquisition of OUR Food and Clothing.

Yet with all these undeniable and essential services GEOLOGY the study of the structure of the EARTH has remained till of Later TIME almost wholly within the Circumscription of the Book of the Memory of AN OLD-MAN.

Fig. 2 is the production of an old man, a chronic maniac, a Roman Catholic tradesman, whose impression was that he could reform the world, get rid of war, and pay off the National Debt by praying and writing, which he did constantly for many years. He spent all his time upon his knees, and most of it in his own room, where he used to write incessantly. His writing was as much a religious exercise as his prayers, and the amount of manuscript produced was enormous. The lithographic specimen forms a small portion of one of a number of large sheets similarly crossed. See the footnote at p. 316.

PLATE IV.—Fig. 3. The specimen here given, commencing—

"The melons ripen and the citrons blow."

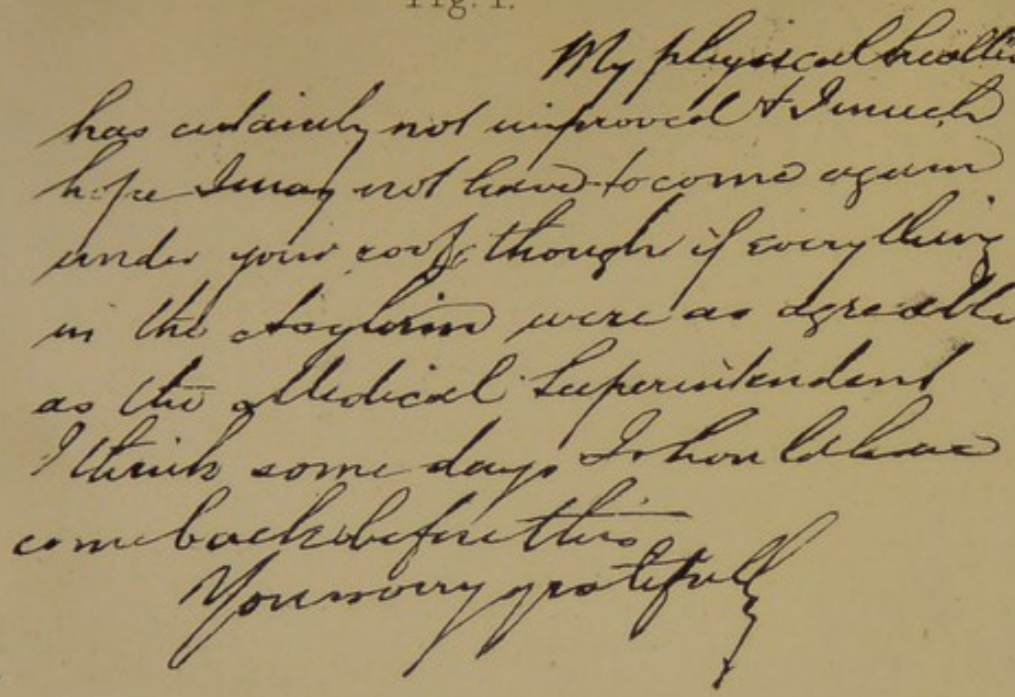
forms, like the last, only a minute portion of a large sheet; this sheet being one page of a book, consisting of 200 pages of equally closely written matter penned at different times. It will be observed that the *first* and *third*, and the *second* and *fourth* lines, are usually continuous. It consists of extracts from poetical works, as Shakespeare, coupled with cabalistic marks of his own *p, p, o, c, p*, &c., in conformity, Dr. Needham thinks, with some delusion.

PLATE VI.—Fig. 2 is written by the same patient, and it is an interesting fact, and one which might be of great importance in evidence produced in a Court of Law, that, although he wrote the first specimen some time before the second, his mental condition was essentially the same at both periods. Yet the evidence of incoherence and partial dementia is unmistakable in the latter production. The letter is addressed to "His Majesty of a Sphere." Thus, although, as Dr. Needham justly observes to the writer, the patient seems to have had no difficulty in *transcribing* with coherence, he could only *compose* incoherently. This patient laboured under delusions about Genii. The incoherence of this letter may be contrasted with the coherence of the writing given in Plate I, fig. 1, the latter having stopped short of so advanced a stage of chronic mania, or rather dementia. In another letter addressed to "His Majesty of a Sphere, Great Deamond Ann and a teo," he says, "Have the kindness to remember Majesty God Esperide duty as it relate to the new Esperiah hath terminated. Dear Mr. Great Deamond Ann and a teo, Your obsequious Madar and tone.

Fig. 1 (same Plate) is written by a patient labouring under General Paralysis, discharged from the "Three Counties Asylum" (relieved, but sure to relapse) by Mr. Denne, to whom the letter is addressed. A close examination of the writing will betray to a practised eye considerable unsteadiness.

Fig. 3 is an attempt made by a patient at the Bootham Asylum, far advanced in General Paralysis, to write the first and second verses of the 103rd Psalm, "Bless," &c. Compare with Plate VII, figs. 1 and 2. Education moderate.

Fig. 1.



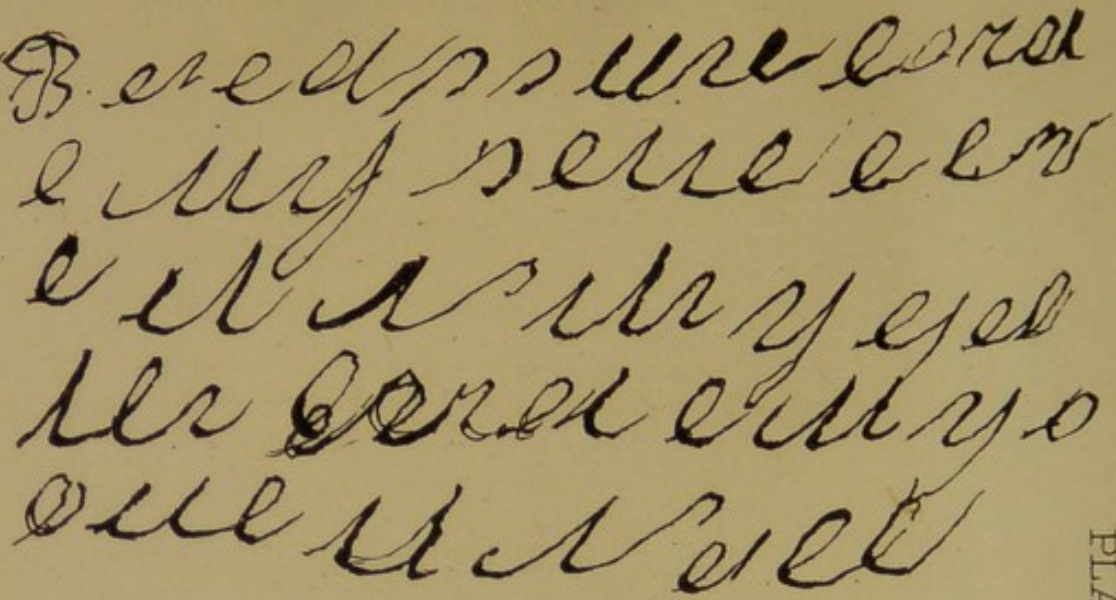
To

His Majesty of a Sphere

Great Genii

of the Empyrean

Fig. 3.



Gay Mr Pro

You are you in your Arm and a
vase – you are you in stone – you
are your self and know – and there
is not

Fig. 2.

Gay Mr Pro
your Servant

PLATE VI.

Fig. 2.

August 14 1892
Boaben Asplan
work brow king
barrles 11 J
of encl and wales
Eotland clen el
rite fie line unto
lhou thopin to fin
el thou in good
elth hour dt. bars

Fig. 3.

Bles th lord o by Saule
and all and al that is wi
in me bles al th. Name
bles th lord o thi Sole
and forget not al his
benfits

Coals	3	6
Coals	1	3
Coals	1	8
	2	6
Coals		
	2	6
Coals		
	3	

Fig. 1.

PLATE VII.—Fig. 1 represents the handwriting of a the same man when in health.

Fig. 2. Handwriting of the same patient when less advanced in G. P., commencing, "August 14, 1872, Bootham Asylum, York. From King Charles III of England and Wales, Scotland, Ireland. I write these few lines hoping to find thou in good health as it leaves me at present. Thank God for it. I have been confined in this wicked place as Doctor Needham is one of the most fearful wicked men. If I was master over this place about two years, could cure every man in this place by faithful prayers by my Father which is in Heaven. . . . And I was in fact the Creator of the world and Redeemer in love and happiness all the days of my life. May the Lord God of Hosts. It just suits these evil men and the women too. I am very sorry for the coal trade getting in such a state [see fig. 1] but I will alter that when I get my liberty from this place. I will buy all the coals myself and send them to all stations and to all consumers and have no more agents for it—them at have got all the profit, but God have mercy upon them for their wretchedness; they are greedy of gain. . . . . and with that stop banks, and if that does not stop them, send them out of the country, but believe always in me and I will from all thy sins set free. So no more at present from King Charles III and George. Your affectionate and well wisher. Your humble servant, C. P."

Fig. 3 shows the handwriting of another patient with General Paralysis at the Bootham Asylum. The writer was a large manufacturer, and well educated.

In a case of incipient General Paralysis under our notice, the patient's correspondents were struck, some time before he was in a condition to be removed to an asylum, with the remarkable change which took place both in his handwriting and spelling. In fact, the first symptom of any mental failure was (along with bad writing in place of a compact regular hand) this striking confusion in the orthography. For instance, he had frequently occasion to mention in his letters a vessel bearing the name of *Phœnix*, which in health he spelt correctly enough, but after the invasion of his malady he spelt *Feighnex*.

To enter fully into the indications afforded by the composition and cheirography of the Insane would occupy more space than our limits will allow. We must, therefore, content ourselves with the following brief summary, and with the references to this subject at the foot of the page.*

1. There may be nothing whatever in the *handwriting* of a patient to indicate the insanity which his *composition* betrays. This applies to many cases of Delusional Insanity, *e. g.* the case recorded at p. 216. His writing is regular and excellent.

2. When persons begin to omit words or spell badly in their letters, suspicion must be excited as to their sanity, and in many instances these are early signs of General Paralysis.

3. As General Paralysis advances, the writing becomes more and more illegible till it consists of little more than unconnected strokes. A patient may so far recover from General Paralysis as to leave an asylum, and his handwriting may be free from

---

* 'On the Writing of the Insane,' with Illustrations. By G. M. Bacon, M.D. 1870. 'Étude Médico-legale sur la Folie.' Par A. Tardieu. Paris, 1842. "Lectures on the Physiognomy of Insanity." By Professor Laycock.—'Med. Times and Gaz.,' Jan. 4th, and Feb. 15th, 1862; and for writing in cases of Aphemia, Aphasia, &c., see Dr. Hughlings Jackson's article in 'Lond. Hosp. Reports,' vol. i, 1864.

decided faults, and only indicate a certain shakiness, as in the neatly written letter, a facsimile of which has been given.

4. In a paroxysm of Acute Mania, if the patient can be induced to write, there is ample indication of incoherence, but he has not forgotten his letters.

5. In quiet Melancholia there may be little or nothing in the execution of the writing, although a great deal in the burden of the letter, to indicate the mental condition of the patient.

6. It is very frequently observed in the letters of the Insane (often in an early as well as a later stage), that a large proportion of the words are underscored, and many words are in large capital letters; also that every possible bit of the paper is covered with writing, which is often crossed. We have before us a letter written by a young lady under our care, the subject of suicidal Melancholia, which indicates nothing remarkable, but other letters written about the same time, which we have not seen, are stated by her friends "to have this singular feature about them, that in every sentence there would be many words underscored, and almost every sentence would be followed by notes of exclamation—two, three, or four of them. This was altogether independent of the matter of the sentence, and was not confined to her correspondence. She would write her name in a book in just the same way. Her latest attack, however, had no such signs attending it. So far as we could see, her writing in every way was quite natural."

7. The artistic designs of the insane are often very characteristic. One now before us represents in colours a vision seen by a patient as he lay on his back on the ground. It was his only delusion. Their erotic character is frequently useful in indicating the nature of the patient's delusions.

8. In some instances the handwriting of the insane appears to be quite automatic in character—an example of reflex action of the cerebral hemispheres; but the writer is unable to give, from personal knowledge, a satisfactory illustration of these ideo-motor productions.*

---

* It should be added that Pl. V, fig. 2, commences with "134 = fessor and Believer in The [*Catholic Faith and in perfect and unrestricted Communion with the See of Rome. But it is the great*] est Curse that God can Inf [*lict upon a Human Being to be a slothful and lukewarm Catholic*] and if Mankind would Thi [*nk upon this, instead of being the scene of dissipation, it would be quite*] as easy to be a Saint in The [*Palace and Court of an Earthly King as in a Cloister, and transact more business daily for the*] Good of The People, pro Bono [*Publico, in one hour by their good example than hath been effected in England and every other*] Nation similarly situa [*ted, both good and evil, for three Centuries by completely vanquishing and putting to rout*] Satan and all His Host [*and causing his Commander-in-Chief and Mock-grace the counterpart of Napoleon to*] Trumpet a Retreat to [*all his forces*] by The Blessing of God [*alone, removing in toto the National Debt and every other evil that these centuries of Sa*] tan's Government has [*inflicted upon the world,*" *&c.*].

The crossing commences "to Believe that the Catholic Relig [*ion is not the true Faith and that he himself*] does not believe that he professes [*and the Church teaches him to believe, otherwise he*] could never find any adva [*ntage &c.*]."

CHAPTER IV.

BRIEF SKETCH OF THE VARIOUS FORMS OF INSANITY FROM A SOMATO-ÆTIOLOGICAL POINT OF VIEW.

The importance of approaching the consideration of the various forms of Mental Disorder from several points of view has been insisted upon in the chapter on Classification. In the chapter on Ætiology we have, to some extent, dwelt upon the relation between bodily diseases and mental disorders; but it is proposed in this chapter to indicate more fully, although very briefly, the path which leads to the investigation of the generation in physical disorder of distinct types of Insanity. We can attempt little more than a "mémoire pour servir" the requirements of the student in the pathogenetic study of Insanity.

Recurring, then, to the observations made at p. 47 on the several classifications there enumerated, founded upon somato-ætiological principles, and assuming the reader's acquaintance with them, we will take the various mental states which appear to be related to certain bodily conditions in the following order. We would, however, premise, as stated at p. 49, that it would be quite possible to construct a psycho- as well as a somato-ætiological classification, and that in what passes under the designation of the latter, there is a large infusion of the former. Thus, Epileptic Insanity is in many instances due to the direct action of a psychic cause. So again is Insanity with paralysis.

Under the first division of the following list of Forms of Insanity, we ought therefore to recognise a number of important cases which arise from excessive action or otherwise of the mental functions themselves, the brain being injured thereby. We might, perhaps, comprise this class in the general term "Psycho-cerebral Insanity," or "Psychic-Insanity." Under this head would come

a case of Acute Dementia, induced by mental shock, as fright, Insanity caused by excessive study, &c.

I.—Insanity, or Mental Deficiency, caused by primary disease or defective development of the encephalic centres:

1. Congenital or Infantile Deficiency.
2. Traumatic Insanity.
3. General Paresis.
4. Paralytic Insanity. (Insanity with ordinary Paralysis).
5. Epileptic Insanity (may also be sympathetic).
6. Senile Insanity.

II. Insanity caused directly or indirectly by disorder of, or changes occurring in, the generative system:

7. Pubescent Insanity.
8. Masturbatic Insanity.*
9. Uterine and Ovarian Insanity (in early or later life).
10. Hysterical Insanity.
11. Insanity of Gestation or Pregnancy.
12. Puerperal Insanity (proper).
13. Insanity of Lactation.
14. Climacteric Insanity.

III. Insanity caused by alcohol and other poisons, including

15. Alcoholic Insanity.
16. Pellagrous Insanity.
17. Cretinism.

IV.—Insanity from other causes:

18. Intestinal, Vesical, and Hepatic Insanity.
19. Post-febrile Insanity.
20. Rheumatic and Choreic Insanity. Gouty Insanity?
21. Tubercular Insanity.
22. Syphilitic Insanity.

Insanity may be Epidemic. With any of the foregoing may be associated, as a predisposing cause, the Insane Diathesis.

* Hyper-sexual Insanity, whether marital or otherwise, might be added, but the mental state induced is included in other forms, as General Paresis. We omit Skae's post-connubial Insanity, because we think such cases are either inextricably mixed up as regards sexual excess and emotional excitement, or when simply due to the latter, need not be distinguished from Insanity arising from mental shock.

Insane Diathesis.

Apart from the presence of a disease of which we have distinct evidence from symptoms, we must clearly recognise the constitutional tendency or the disposition (διαθεσις), as Galen was the first to name it, which determines the subsequent development of special forms of disease in different individuals. Applied to Insanity, it is one of the most striking phenomena arresting our attention, for nothing is more obvious than that a malificent agent operating upon one in whom this diathesis exists, will excite the outbreak of the disease, from which another person, equally subjected to the same cause, will escape with impunity. We may, therefore, speak of an insane, as well as a gouty or strumous diathesis.

What are the occurrences in an individual's history indicating this diathesis or neurosis? Dr. Anstie, who has paid much attention to neurotic diatheses, describes them under four heads:

1. Premature occurrence of puberty. Sexual precocity.
2. Unexpected development of intense artistic feeling in children born of a naturally common-place family.
3. Convulsions during teething, without adequate cause.
4. The development of a habit of lying or stealing in well-trained children.

It is very difficult, perhaps impossible, to draw the line between a latent predisposition to Insanity, and certain well-marked temperaments, as, for example, the melancholic, the slightest exaggeration of which may constitute actual Melancholia, the difference being only one of *degree*.

Prosper Lucas's distinction between *latent* and *patent* has been already referred to, as also Dr. Anstie's division—the Latent or Dormant, and the Active Hereditary. The latter believes that the active hereditary neurosis always originates in a family stock from either (1) drink, (2) sexual excesses, (3) habitual want, or (4) mental vacuity from entire want of education.

See the remarks on 'Hereditary Predisposition,' p. 57–60; also the works whose titles are given at p. 77.

Congenital or Infantile Deficiency.

See section on Idiocy and Imbecility, p. 162, and Moral or Emotional Insanity, p. 248, for cases of Congenital moral insensibility or Imbecility; for cases of Congenital Kleptomania, p. 285. To the references there given may be added:

Gratiolet's "Mémoire sur la Microcephalie considerée dans ses rapports avec la question des caractères du Genre Humain" 'Journal de Physiologie par B. Séquard, 1860, in which he arrives at the conclusion that the brain of a microcephacele is not that of a monkey but of a man "amoindré;" an article by Dr. Carter, Demonstrator of Anatomy, Cambridge, on the Dissection of an Idiot's Brain, in whom the irregularities in the arteries and muscles was very peculiar, 'Humphrey and Turner's Journal of Physiology,' 1869. (See also Ibid., Nov. 1871.) Mr. R. R. Gore's case of an idiot whose brain only weighed 10 oz. 5 gr. (av.) without membranes, the transverse diam. being only 3·25 in., 'Anthrop. Rev.,' May, 1863. Marshall, "On the Brains of Two Idiots," 'Phil. Trans.,' 1864, p. 526. 'Anthrop. Rev.,' 1863 (the lightest brain on record (?), viz. 8·5 oz.). Sander, 'Archiv für Psychiatrie,' 1868, agrees with Wagner and Owen, as opposed to Vogt, that the brains of idiots do not revert to the 'Simian type" for whilst they resemble them in the anterior lobes, they are as far removed from them in their posterior lobes, of which these are nearly destitute."

With the foregoing may be usefully compared the weights of brains in non-idiotic persons collected by Dr. Thurnam, 'Jour. of Men. Science,' April, 1866; the average European's weighing 47·1 oz., and that of ten distinguished men 54·7 oz., the age varying in both instances between 50 and 70.

Traumatic Insanity.

In the chapter on Classification we spoke of the different forms of Mental Disorder which may arise from the same somatic cause. Thus, while we have seen Melancholia, &c., induced by a blow or fall on the head, we know of a patient at the Bootham Asylum, York, who received a blow from a cricket-ball, and in his case Dementia supervened. On mentioning parallel instances to the late Dr. Skae,* he replied that the exception proves the rule. The exceptions in the various ætiological forms of Insanity are, however, too numerous to allow of this explanation (see pp. 48, 50).

In six cases of mental disease caused by injury to the head, recorded by Dr. C. Browne in the 'West Riding Reports,' vol. ii, we observe that one, an infant, became idiotic; another, a boy,

* It is proper to state that the remarks on this psychologist's classification (p. 47). were in print a considerable time before his lamented death.

æt. 10, who knocked his head against the wall from time to time to avoid school, had Acute Dementia; another, æt. 16, had Hysterical Mania; a fourth, æt. 35, who received a kick from a horse on the head, had Acute Mania; a fifth, æt. 46, laboured under Melancholia; and the sixth, æt. 65, was the subject of Senile Dementia.

At the Hull Borough Asylum we recently saw a patient (an engine-driver) under Mr. Casson's care, who six years before admission had a fall on the back of the head, since which his wife said he had never been the same man. Instead of being good tempered he became irritable, especially with his children, and at last threw knives at them, and tried to stick darning needles into their eyes. When he came to the Asylum he was rather unsteady in his walk, which he attributed to "a stroke." When we saw him fifteen months after admissiom, he was far advanced in General Paralysis, his gait very bad, his articulation drawling, his pupils unequal, and when asked after his health replying with the characteristic "all right," but had a delusion that in the night some one had disturbed him, taken him out of bed and set fire to it.

At the Royal Naval Hospital, Yarmouth, a patient was admitted in 1869, the exciting cause of whose mental symptoms, which strongly resembled those of General Paralysis, was a fall on board ship from the main to the lower deck, by which he was for the moment stunned, but did not find it necessary to lay up. He, however, said he was never the same man after the accident, and that he had lost his nerve. He became suicidal, and was admitted into the Haslar Hospital—how long after his fall we do not know. When admitted into the Yarmouth Hospital, under the care of Dr. Macleod, to whom we are indebted for these particulars, he was irritable, very emotional, peevish, restless, sleepless, and exceedingly depressed. Other symptoms were headache, twitches about the face and extremities, tremor of lips in attempting to speak, slight thickness of speech, and a slight impediment in articulation; walked at times with difficulty; obstinate constipation. His memory, however, was perfect, and he was able to give minute directions to his friends about his affairs.

We have stated that the symptoms in this case *resembled* those of General Paralysis. There was, however, no tendency to mental degeneration, nor were there at any time any exalted delusions. Dr. Macleod frequently recommended him to go home, but he himself felt satisfied that the Asylum was the right place for him, and appeared afraid of his suicidal tendency. He became conscious of diminished motor power in the lower extremities. He frequently had a fainting sensation, and involuntary twitches all over the body. One day he became for some time unconscious when in bed, and had the muscular twitches very strong on consciousness returning. About a week after he had slight, but decided epileptiform convulsions, and a repetition of them nearly three months subsequently, followed by stertor and unconsciousness for six hours. About two months later (December 7th, 1871), he was found in a state of coma, and had occasional convulsions. Pupils contracted; pulse 99; respiration 29 per minute; the temperature rose.* He died on the following day. No post-

* Dr. Macleod says the thermometer stood low throughout, and that, contrary to the general rule, the morning temperature was high, and the evening low. In this respect, therefore, as in the others already mentioned, this case differed from one of General Paralysis.

mortem allowed. The father of this unfortunate gentleman (who was considered one of the best officers in the service) died insane; his paternal grandfather and grandmother were also insane at one time, and his father's brother is now a patient in an asylum. Here then, while, as we have said, the exciting cause was traumatic, there was a terrible dormant hereditary predisposition to Insanity—a magazine, which only required a spark to cause a fearful explosion.

Dr. v. Krafft-Ebing has classified cases of Traumatic Insanity according as they are (1) the direct consequence of an accident, (2) manifested later, after the *prodroma* of disordered motor and sensory phenomena, and change of character, (3) preceded by a latent condition of susceptibility (the result of the accident) which we may call an acquired predisposition, and which only requires an exciting cause to be developed into actual Insanity.

General Paralysis or Paresis.

Synonyms.—*Paralysie générale des Aliénés* or *progressive*, *Folie paralytique* (Fr.); *Allgemeine Paralyse der Geisteskranken*, *Paralytischer Blödsinn* (Ger.); *Paralytic Dementia*, *Progressive General Paresis*.

Definition.—A disorder marked by general and progressive loss of co-ordinating power over the muscles, especially those of speech and locomotion, combined with mental enfeeblement always tending to Dementia and frequently characterised by a sense of well-being or actual delusions of an exalted character.

Symptoms.—These will be most forcibly brought into relief by a few striking cases, in which the symptoms of the several stages of General Paralysis, passing almost insensibly into each other, will be illustrated, namely, the early difficulty of speech, the tremor of the tongue and lips, the uncertain gait, accompanied by remarkable mental weakness and in many instances the *manie des grandeurs*, followed by almost certain mental degeneration and the loss of voluntary and even excito-motor power.

In a case subsequently referred to (G. H.), the patient believed he had interviews with the Almighty and the Holy Ghost, that he had £40,000 in the London and Westminster Bank, that he was King of England, and, therefore, accused every one of not paying him proper respect. He promised to clothe the other patients with armour of gold, and said that the buttons in their clothing were made only of *his* gold. In another case, in the same

Asylum, the patient (a seaman), when talking boastingly of himself, declared himself to be an architect and that he would build a finer tabernacle than Spurgeon's, and could preach better than him.

The mental symptoms prior to admission of a patient we examined at the Hull Borough Asylum were irritability and tendencies of a very dangerous character.*

In the last stage, which may be prolonged for years, emaciation usually succeeds obesity. In other cases the patient dies corpulent. Intense restlessness may be present, but, ordinarily, there is lethargy of body as well as of mind, the repose of which is mainly disturbed by twitchings or epileptiform convulsions. These often terminate life, but the most frequent causes of death are sheer exhaustion and tubercular disease.

With regard to the condition of the retinæ in General Paralytics, Dr. Allbutt, in his work already referred to (p. 302), states that he examined the optic nerve and retina in fifty-three cases of General Paralysis. In five, no change was observed; in forty-one, atrophy of the optic discs in its various stages; in seven, doubtful. He finds the nerve-changes to be generally proportionate to the contraction and dilatation of the pupils, the former corresponding to the early or hyperæmic stage, and the latter to the white atrophic condition. Dr. C. Arlidge has pursued these investigations on a much larger scale and published his observations in vols. I and II of the 'West Riding Reports.' He confirms the statement just made and observes, "not only the fact that General Paralysis is present can be rendered probable by

* See also the Chapters on Diagnosis and Pathology. Of the large mass of literature bearing on this malady we may refer the reader to the following, in addition to the works of Haslam, Delaye, Bayle, Calmeil, Parchappe, &c., mentioned in the Chapter on Pathology:—'Traité pratique des Maladies nerveuses,' par Sandras, 1851. "Paralysie progressive," art. in the 'Dict. des dict. de Méd.,' par Brierre de Boismont, 1851. 'Recherches sur la Folie paralytique,' par Jules Falret, 1853. Dr. Wilks in 'Guy's Hospital Reports,' 1866, and in 'Journal of Mental Science,' where articles by Sankey, Clarke, Westphal, Meschede, &c., will be found. 'Recherches sur la Paralysie générale progressive,' par M. Doutrebente, 1870. "De la Paralysie générale par Propagation," par Dr. Ach. Foville, 'Annal. Méd. Psych.,' Janvier, 1873. The late Dr. Bell, of America, writing in 1844, said, it was only within three years that patients had been admitted into the McLean Asylum labouring under General Paralysis. On looking over the register of past years he could not find a case, the description of which resembled the "manifestations so graphically described by many English and Continental authors."

the changes observed with the ophthalmoscope, but an estimate may be formed as to how long the disease has existed; for we find that the most complete atrophy of the disc was seen in the female cases, from whose history we find the disease to have been of long standing" (vol. ii, p. 228).

As regards *temperature, pulse,* and *respiration,* we may state that in a case which will be given as an example of the unusual duration of the disease, careful observations were made in regard to these particulars, and although they only have reference to a single case, as they are accompanied by Dr. Macleod's conclusions based on numerous other observations, they cannot fail to be of interest and value to the reader. Dr. Macleod considers that this case has a low temperature for such an advanced stage. It will be observed that the lower the morning and evening temperature falls, the greater difference there is between the two periods of the day.*

Average monthly temperature of case. (See p. 336.)

	A.M. Temp.	P.M. Temp.	A.M. Pulse.	P.M. Pulse.	A.M. Resp.	P.M. Resp.
1869—August	99·	99·60	108	114	19	21
September .	99·	99·60	106	112	22	25
October.....	99·20	99·60	95	102	20	23
November...	98·80	99·40	98	102	20	22
December...	98·80	99·40	90	101	18	21
1870—January ...	98·40	99·	95	102	18	19
February ...	98·80	99·40	95	101	18	19
March	99·	99·60	90	99	18	19
April.....	99·	99·60	92	101	18	20
May	98·60	99·40	90	98	18	19
June.....	98·40	98·80	88	96	18	20
July	98·40	99·	81	96	18	19
August	98·40	99·20	91	91	18	19
September .	98·40	99·20	88	96	18	19
October ...	98·80	99·60	91	104	18	21
November .	98·40	99·60	104	106	19	21
December .	98·60	99·40	101	107	18	19

* It is hardly needful to point out that in taking observations of temperature, care must be taken that there are no diseased actions going on in the system which will give rise to an increased temperature, independently of disease of the nervous system, as, *e.g.* tuberculosis. As lung disease is frequent in General Paralysis there will, in such cases, be a high temperature, varying between morning and evening, from that cause alone.

	A.M. Temp.	P.M. Temp.	A.M. Pulse.	P.M. Pulse.	A.M. Resp.	P.M. Resp.
1871—January ...	98·60	99·40	98	102	18	18
February ...	98·60	99·40	95	97	17	18
March	98·40	99·	86	90	18	18
April.....	98·20	99·	86	98	17	18
May	98·20	99·	86	98	17	18
June.....	98·20	99·20	85	96	18	20
July	98·	98·80	83	92	18	20
1872—January ...	98·	98·80	88	98	17	17
February ...	98·	98·80	86	98	17	17
March	98·	99·	88	91	17	18
April.....	98·	98·80	90	94	17	19
May	97·80	98·60	85	98	16	19
June.....	97·80	98·80	76	90	18	20
July	97·80	98·80	76	98	18	20
August.....	97·60	98·60	72	80	16	18
September .	97·60	99·20	74	81	17	18

Dr. Macleod has kindly furnished us with the following summary of his experience relative to temperature:

1. That among the symptoms of General Paralysis there is always a higher temperature in the evening than in the morning; seldom less than 1°, except in those cases where the disease is arrested; then it may be as low as ·40°.

2. That the thermometer shows the progress of the disease when it cannot be satisfactorily discovered by any other means.

3. That in many sleepless and destructive patients the temperature is higher than it is in those who are quiet and easily managed; but what is more to the point and will be found to hold good in all destructive cases, the difference between the morning and evening temperature is greater, and in some the difference is as much as 2°.

4. That the temperature increases in proportion to the loss of motor power, sensation, and reflex action, and that the loss of motor power, sensation, and reflex action is in proportion to the amount of degeneration of the brain and cord, but chiefly of the latter. I am satisfied that there is a higher temperature attending softening of the cord than, *e. g.* of the corpora striata.

5. That in cases of fatty degeneration, where the patient died without emaciation, the temperature kept high until death, and rose for half an hour after death.

6. That in extreme emaciation, the temperature rose until complete relaxation of sphincters took place, including in this the cardiac orifice of the stomach, but in these cases instead of the temperature keeping high until death, it gradually fell two days before death, and the smell was offensive, as if decomposition had already commenced, death as it were, beginning at the extremities from deficient circulation.

7. That it holds true in all progressive degeneration of the nervous system, that it is not the low state of the temperature which is of consequence, as long as it is not under 95°, or the rise, as long as it is not above 98·50°, so much as *the difference between the morning and evening;* the less the difference, the nearer to health.

8. That the higher the temperature, and the greater the difference between

the morning and evening—the increase being in the evening—the greater the mortality.

To illustrate further the state of the pulse in General Paralysis, we avail ourselves of the valuable and accurate observations made by Dr. George Thompson with the sphygmograph at the West Riding Asylum, published in vol. i of the 'Reports' of that Institution. For permission to do so, we must express our obligation to Dr. Thompson, and, for placing the woodcuts at our disposal, to Dr. Crichton Browne, the editor of the work in which they appeared.

In the Supplementary Notes to Chapter III, we gave illustrations of the sphygmographic tracings of the pulse in health and in pyrexia (p. 308). With these the reader will be able to compare the following:

Fig. 1 represents a typical example. "The line of ascent is slanting and short, while that of descent is gradual and prolonged, and does not display the usual aortic notch, but, instead, presents a number of wavelets, which, if counted carefully, will be found to have eight distinct rises and depressions." The patient, a male, æt. 33, had been in the Asylum two months with characteristic delusions of wealth, &c., but had quieted down, and his state seemed almost to throw doubt on the diagnosis, when the tracing was made and confirmed it. Subsequent epileptiform convulsions, &c., left no doubt as to the nature of the case.

FIG. 1.

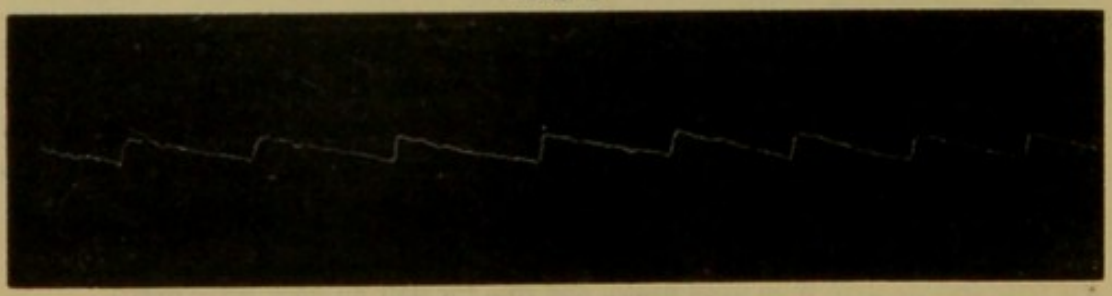


Fig. 2 is from a cab-driver, æt. 24, in an early stage of General Paralysis.

FIG. 2.

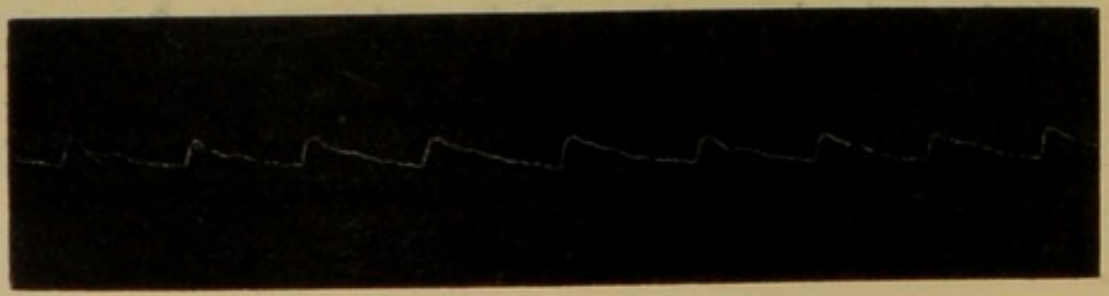


Fig. 3 was taken from a man labouring under excitement—whether involving more than Simple Mania was doubtful at the time. Ultimately, however, the case assumed the form of Paralytic Dementia and terminated fatally.

FIG. 3.

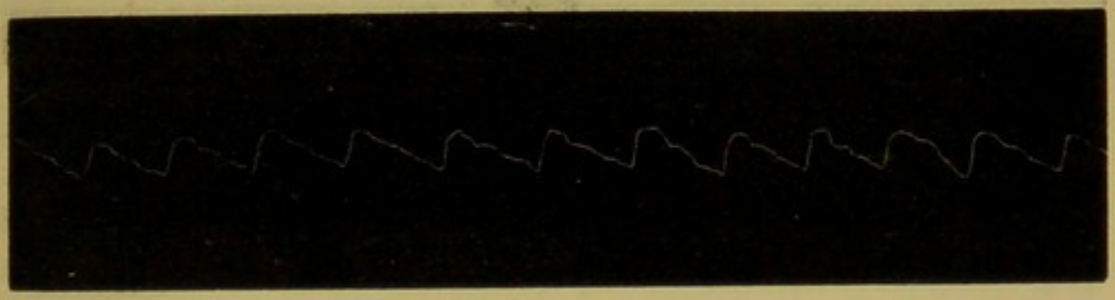


Fig. 4 represents the pulse-tracings of a man, æt. 47, in a state of wild excitement, with exalted ideas. Subsequently he had marked symptoms of General Paralysis, and became worse and worse.

FIG. 4.

Fig. 5 is from a man, æt. 35, labouring under well-marked General Paralysis, but the character of the tracing is altered, and indicates a different condition of the vessels, in consequence of the patient taking Calabar bean for a considerable period, which was followed by marked improvement. Dr. Browne informs us that he submitted to Dr. Thompson's examination nine female General Paralytics, of whom he knew nothing, and asked him to distinguish by the pulse-form which were under treatment by Calabar bean, and which were not. After taking tracings, he at once and correctly pointed out four women who were being thus treated, and four who were not. Only in the case of one woman did he make a mistake. She was taking the Calabar bean, and he classified her with those who were not being thus treated. She had only, however, taken the drug for a very short time.

Fig. 5.

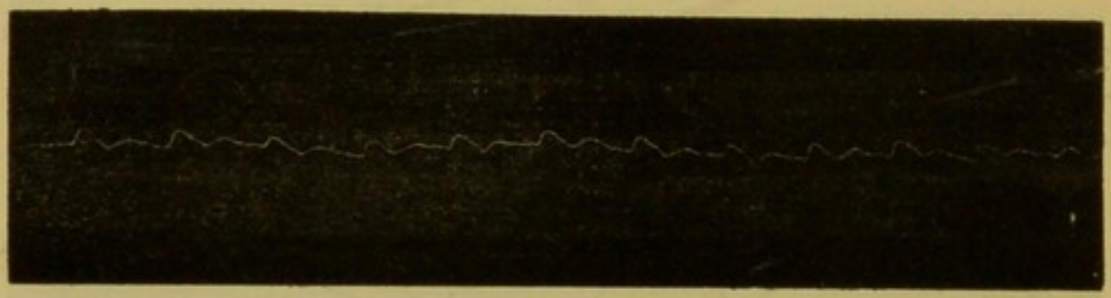
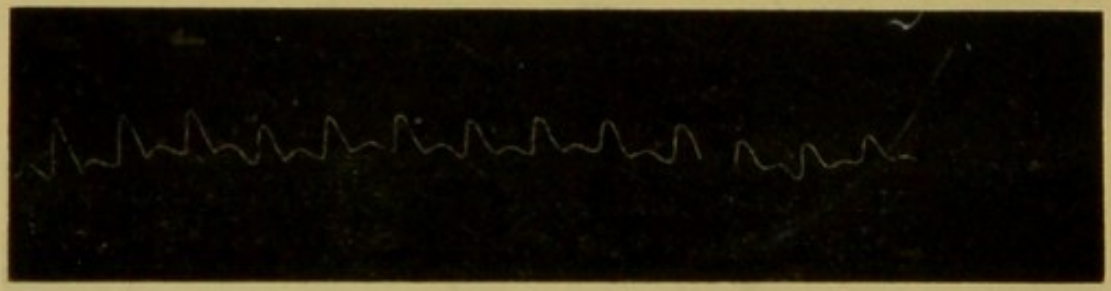


Fig. 6 exhibits the tracing of a woman patient suffering from General Paralysis, and whose pulse-form resembled Fig. 4, but who, at the time the subjoined marking was produced, was the subject of inflammatory fever due to bronchitis. Compare with the figure given representing pyrexia at p. 308.

Fig. 6.



It may be added that Dr. Thompson refers the pulse-changes which take place in General Paralysis to arterial contractions, the result of certain pathological changes; and with these he compares the tracing taken from the wrist of a healthy person immersed in cold water for some time, and therefore chilled (see Fig. 7). The resemblance is certainly remarkable.

Fig. 7.

As regards the *age* of those attacked with General Paresis, we find from Dr. Macleod that out of 75 patients admitted into the Royal Naval Hospital at Yarmouth there were—

Between the ages of	20—30	14*
„ „	30—40	32
„ „	40—50	20
„ „	50—60	7
„ „	60—70	2
	Total	75

In a table prepared by Dr. Burman, showing the age on admission into the Devon County Asylum, of 266 male patients the subjects of General Paralysis, the highest number (109) occur between 40 and 50; and the next (91) between 30 and 40. Thirty-eight were admitted between 50 and 60; seventeen between 20 and 30; and eleven between 60 and 70. In regard to the female cases, the highest proportion was found to be between 30 and 40. ('West Riding Asylum Medical Reports,' vol. i.)

In respect to *sex*, the comparative immunity of women is a striking feature. On reference to the section on the Relative Frequency of the Various Forms of Mental Disorder, the reader will observe that at the Somerset Asylum, 8·27 represented the percentage of cases of General Paralysis among the male admissions, while among the females the proportion was only 1·9 per cent. Of 1963 male admissions at the Devon Asylum, 276 were cases of General Paralysis, while of 2099 females only 65 were so affected (Burman). This ratio closely corresponds with the foregoing. Other statistics give a proportion of eight males to one female. Mr. Denne, on the other hand, informs us that, contrary to his former experience at Hanwell, he sees at the "Three Counties Asylum," Herts, a large number of cases among women.

A patient whom we recently examined and made notes of shortly after his admission into the Royal Edinburgh Asylum, and for the particulars of whose history, &c., we are indebted to Drs. Sheaf and Haigh, affords a good illustration of exceedingly well-marked General Paresis in a somewhat early stage.

His articulation was affected, there was a slight tremor of the lips and tongue, and there was a very decided manifestation of the *délire des grandeurs*. He begged to be allowed to go by an early train to Paris to be crowned Emperor of the French. He dwelt with fervour on the beauty of the princesses he should see there. His lips were pale, his voice husky, his aspect worn, his volubility extreme. His pupils appeared to be equal and rather contracted, but it was not easy to examine them on account of his excitement. He was rather tall and good-looking, and decidedly thin.

Since his admission his wife and brother had visited him, and he had become more excited in consequence, and tore his clothes. On the 5th October, 1872, the

* The youngest being 21.

note was made, "He is now quieter, but believes he has bought the whole world; that he has millions of money; that he can walk ten miles an hour; will walk to York to-night; that everybody is a jolly good fellow, except some few of his friends, whom he means to shoot."

We find that he became at the age of thirty, without any apparent cause or known hereditary taint, quite altered in his character, very easily excited, and vain. Before long he betrayed incoherence in his conversation, had delusions, and appeared to have quite lost all sense of time or knowledge of dates. At last he became so noisy and violent that it was necessary to place him in an asylum. He also threatened to commit suicide. At this time he wrote a letter to his wife, in which he says "*Surely you don't think me insane. You will I hope have the only pleasure I have on earth of seeing me once again at your sight*" (sic). He signs himself,

"*Your sane loving husband*
Love and kisses to my darling children
Yr. devoted husband."

In a letter to his mother he says, "*Here I have been trapped in the most abominable way. . . . If I am not let out at once I shall cut my throat at dinner, so farewell for ever;*" and again, shortly after, he writes to her, "*I am still imprisoned here and tho' I begged you to come and release you have not done. . . . . I am mad raving, and have a great mind to execute a rash act which leaves me but a few ere death seals my doom.*" To a Professor he writes, referring to his confinement, "*No step fraught with more danger and injury to me. I am determined to proceed at the earliest point to raise an action in the Court of Session for several* £1000 *and will spare no mercy in having them punished.*" Lastly, a few days after, he thus addresses his mother:—"*I am getting very tired of my confinement and if my deeply revered parents and brother and sisters are still burning with the same unextinguishable love for which they have so long been conspicuous I cannot live here over this week. I am sure and convinced that that old fiend and ruffian my father-in-law has been puzzled his old scattered brains for years as to the best devise for rendering this fair and beauteous earth a hell instead of an extactic paradise. I am often in tears especially at night when I reflect on my darling amiable image-god only beloved brother—. He was a Christian and he now wears that crown of glory which fadeth not away.*" Of the asylum he says, "*It is getting intolerable, I cannot, and unless I am instantly set free and restored to the bosom of my beloved darling family. Ah! Mama those who were instrumental in the hellish way they did in putting me here, could not tho they searched earth and land, sea and sky or heaven or hell could have adopted a surer or more decided mode of blasting the happiness of life ever set. (Fond love to— affect. son (Signed) ——) upon the great reward. Oh if you could only see me here at nights, and also when all alone your bowels of mercy would be moved. I never thought I had a legion of cruel enemies. By let my end be by my own hands or by the will of the Great Creator. I hope my case will be peace.*"

These letters are very characteristic. The reader will observe the incoherence—a word now and then left out—a wrong word occasionally used, as "sight" for "side"—the order of words reversed, and a line sometimes interposed in a curiously abrupt and dislocated fashion. Then, in regard to the matter, the union of pious references (more of which occur in the letter) along with

violent expressions in regard to those whom he denounces as his enemies, is worthy of note. No one familiar with the insane would hesitate to admit the genuineness of such a letter as this. (See Observations on the Handwriting of the Insane, p. 315.)

The following case affords another good example of General Paresis in an early stage, but with rather different symptoms.

E. F—, married, æt. 33, with an hereditary taint of Insanity. He was a very sober man, occupied as a bleacher, and of regular habits, with a wife and family; no exciting cause of his mental disorder is known. About four years before the present attack he had delusions about poison in his food, but after eighteen months' treatment he was able to return to his work. He does not appear, however, to have remained free from symptoms of Insanity for more than about half a year, although nothing transpired sufficiently definite to render it necessary to place him in an asylum until September, 1872. The writer saw him on the day of his admission into the Cupar Asylum, when his thick articulation and characteristic hesitation in pronouncing his words were well marked. His tongue was also tremulous, and his walk slow and somewhat straddling. He looked absent and stupid. We are indebted to Dr. J. Batty Tuke for a copy of the notes made by himself and Dr. Frazer at the time of his admission, from which we extract the most salient additional features.

Body well nourished. The patient allows his words to drawl out of their own accord, with very little effort. Stiffness or immobility of the lips, especially the upper, which is markedly so, and hangs like a curtain, while the duty of articulation devolves on the lower lip and tongue, more especially on the latter. He seems to have a difficulty in enunciating the letters "r" and "s," placing a long slur on the former, and substituting "th" for the latter, as in the words "form," "arm," "Leslie," "blessed," &c. Drawl most marked on second syllables.

The tongue exhibits a general fibrillar tremor, the tip directed slightly to left side; after being protruded for a short time it is retracted with a jerk, even when he is requested to keep it out. The pupils are unequal; left largest, and of normal size, but somewhat sluggish; right appears permanently contracted.

The finer movements of manipulation seem to be affected, as there is some fumbling in buttoning up his clothes. His handwriting is fair, but very tremulous and irregular. Each stroke of the pen seems a work of some effort, and every letter has to be made by itself, and then joined on subsequently to the preceding one.

Sensibility to temperature was tested by the hot and cold sponge, and found normal. As regards the tactile sensibility, the æsthesiometer proved that he could distinguish the two points as such, at a distance of two thirds of an inch, over the greater part of the body, except on dorsum of right foot, up as far as the ankle, where the limit of confusion was at one inch. By the electro-motor test, sensibility appears pretty normal in the upper extremities. When one handle of the battery was carried down the spine, the other being held over the seat of the inferior cervical ganglion of sympathetic, as soon as it reached the lower dorsal and lumbar regions, the patient began to shrink and complain of the severe pain caused him, especially in the lower lumbar region.

He is apathetic; sits by himself in a corner, moody and unsociable. No exalted notions; rather depressed than the opposite, yet there is the *bien être* of General Paresis, and when questioned as to his bodily health, looks contented and happy for

the moment, and expresses his condition as being "fine," "first-rate," &c. Is long in replying to a question, and then frequently only in monosyllables. Memory, as regards time and dates, very defective; thought he had been here a month on the fourth day of admission, but as regards events connected with himself, it is good.

He is tractable. Habits cleanly; sometimes useful about the house. Seldom, however, on his feet, except when asked to walk across the room or when sent on a message.

As an illustration of the advanced stage of this disease, the writer may give the following case, which came under his notice at the Hull Borough Asylum:

The patient, a tailor, was admitted in a state of Mania in November, 1867, the entry being made by the Superintendent, Mr. Casson, at the time, "Wild staring eyes; pupils much contracted; maniacal expression of countenance." The symptoms were of only about fourteen days' duration, during which time he had done all sorts of foolish things, ordered carriages, dinners at hotels, and numberless expensive articles. He had also been very restless, and did not sleep much at night. In the morning he would get up very early, go out, and call people up to have breakfast with them. Two days afterwards he was very wild and excited, and talked incessantly. In about a fortnight he became quieter, though his language was maledictory and blasphemous. Shortly after it was found he had decided hallucinations, such as seeing Christ, the evil one, &c. For some months he remained in a doubtful condition, occasionally maniacal, but, on the whole, more composed, and in the summer of 1870 appeared to be in a very hopeful state, both in mind and body, and commenced work in the tailor's shop. He then became decidedly stout and very indolent, but after a while he improved in all respects. This, however, was but the lull which preceded the appearance of a symptom only too significant of the succeeding mental disorder. When at work his hands became tremulous. This was quickly followed by slowness of speech and a disinclination to enter into conversation. Moreover, there was now some loss of power over the sphincters. Notwithstanding the increasing gravity of these symptoms, half a year afterwards signs of amendment were manifest, and his habits, which had been dirty, became cleanly, and he was able to do a little tailoring again. To a superficial observer he might have seemed well. However, in three or four months he became talkative, and as to his physical condition he is described as "in the bloated state of General Paralysis." Four months later he was quite incoherent—in a perfectly hopeless state. About two years and three quarters after the first decided signs of General Paralysis, he was confined to his bed, never speaking unless when addressed, and then only in monosyllables. Bed-sores succeeded; a water bed was made use of; he was perfectly helpless, and could not speak, yet after some months had elapsed, his bodily power so far improved that he was able to leave his bed and sit up dressed in the ward. When the writer saw him he could answer questions, chiefly in monosyllables, in a very slow unintelligent manner. His pupils were sluggish; equal. The tongue deviated a little to the right, and was rather tremulous. Fingers of right hand flexed on palm. Could walk pretty quickly across the room.

Ætiology.—Differences of opinion still exist as to the most frequent cause of this malady. It is certainly suggestive that, if we take two institutions, the York Retreat, and the Royal Naval

Hospital, Yarmouth, which offer a complete contrast as to the habits of life of the patients admitted into them respectively, we find that in the latter, General Paralysis is of exceedingly frequent occurrence, and in the former, it is very uncommon. Now, if we ask ourselves in what respect these habits differ, there can be no hesitation in replying that it is in regard to a regular and temperate life. In the community from which the Retreat derives its inmates, a large number pursue the even tenor of their way without much excitement, and are very temperate in their habits. The difference in the annual consumption of intoxicating liquors in the two classes would be something enormous. The contrast would also be as great in regard to other forms of excess manifested by dissipated habits. The conclusion which this comparison suggests is confirmed by a statement made to the writer by Dr. Macleod, that a large number of the cases coming under his care at Yarmouth are due to irregular habits of life—in not a few to debauchery on landing after a voyage.

Then, again, if we contrast the class for whom the Retreat is established with the inmates of county and borough asylums, we shall find that whilst in the former, intemperance and poverty are of infrequent occurrence—indeed, as regards poverty scarcely known—they are prominent features in the antecedent histories of the latter class. At the time when there was no, or only a doubtful case of, General Paralysis at the Retreat, the writer found at least eight in the Hull Borough Asylum, containing at that time almost exactly the same number of patients. These the Superintendent, Mr. Casson, kindly allowed him to examine, and of seven he took careful notes and ascertained, as far as possible, their past histories. As regards causes, he found that of these seven, three might fairly be traced to intemperance. Of one, a man of about forty, his wife said he had been "a hard drinker." This, of course, led to quarrelling and to trouble in his situation, and he had to go to the workhouse. Of another, a tailor, aged forty-three, the statement was made by a woman who lived with him since the death of his wife two years before, that he had been "a very heavy drinker, more particularly during the lifetime of his wife, who was a hard drinker also." She said she had discouraged his taking so much, but that a short time before this attack he had "a heavy drinking bout." In the third case, a young man of twenty-eight, and formerly steady, was sent on recruiting service to

Sheffield, where he married a worthless woman, who subsequently deserted him. This preyed so on his mind that he took to drink, and during the twelve months previous to his admission "drank very heavily indeed." In a fourth patient, a labourer, there was no evidence given of drink, but only of want. The causes assigned were "a bad wife, who had left him; want of work, and consequently insufficient food." The records of the county asylums of England would supply but too many parallel instances to the foregoing. Drink causing poverty, and poverty leading to drink (the former in by far the largest proportion of cases), are the familiar antecedents of an attack of General Paralysis. And the absence, for the most part, of these antecedents in regard to the patients admitted into the Retreat, coupled with the comparative freedom from this particular form of Insanity, can hardly be an accidental circumstance, but one which justifies our accounting for the prevalence of General Paralysis by the influence of alcoholic excess and dissipated habits, combined in many instances with insufficient nourishment.

In the other cases the alleged causes were, in one instance, a fall on the back of the head, in another, loss of property, and in the third "a stroke."

In the statistics collected by Dr. Burman respecting the cases of General Paralysis admitted into the Devon Asylum, of 103 cases in which the cause was ascertained, although intemperance forms the largest single cause, the moral causes slightly exceed the physical, and Dr. Burman thinks these statistics confirm Austin's opinion that "an acutely painful impression on the moral sensibility is the usual cause of General Paralysis."

In 12 out of the 103 cases the cause was referable to falls and injuries to the head, and in 7 to *coup de soleil.*

As a circumstance of interest taken in connection with the class of persons who go to the Royal Naval Hospital at Yarmouth, it may be stated that, according to Dr. Burman, "the occupations which next in frequency to that of labourers, recruited the ranks of general paralytics in the Devon County Asylum, were those of soldiers and marines or mariners, one seventh of the whole number of males being of one or other of these occupations," thus confirming Calmeil's statement that "de toutes les professions, celle des armes exerce l'influence la moins douteuse et la plus funeste."

Prognosis.—(See p. 144.) Recoveries, or rather remissions for months and even years, are not very unusual, but a relapse may be but too surely predicted as almost certain. Although, however, usually incurable, cases do occur which raise a strong hope that the recovery will be permanent. Dr. Macleod, whose experience of General Paralysis is very large, having treated upwards of a hundred cases during the last six years, informs the writer that out of that number he has discharged two apparently recovered.

The first case was admitted on 14th September, 1869, and was marked, not only by the usual delusions, but also by twitches of facial muscles, tremor of upper lip, thick speech, and weakness of the knees. He was also violent and destructive. Under good diet, rest, and Syr. Quin. et Ferri Phos. and strychnia he gradually calmed down, became quite rational, and lost all abnormal symptoms, except the tremor of lip, and a slight thickness of speech. He was ill for three months, and was kept under observation for six months before he was discharged.

In the second case, the patient, æt. 32, was admitted in March, 1870, and had a history of being very restless and talkative on board his ship, boasting of his vast riches and wonderful adventures. His account of his age and previous mode of life was incoherent and contradictory. In the hospital to which he was sent, the report states that he was, by night, singing and shouting and very destructive, and on the 5th October he had a paroxysm of maniacal violence. On admission, he laboured under numerous exalted delusions, such as that he was king of the world, that his brothers were kings, and that he possessed untold riches, millions in every bank, and that he had power to do whatever he chose to undertake. His speech was thick and articulation at times difficult, his gait very unsteady, his habits dirty; the temperature 98° in the morning, and 99° in the evening.

Given such symptoms as the above, every medical psychologist's prognosis would be to the last degree unfavorable; yet, after being under treatment until March, 1871, he began to improve, the exalted delusions entirely passing away. The thickness of speech and difficulty of articulation, however, remained, although in a less degree, and it was also observed that if he tried to lift anything heavy his legs failed him, and this want of power he acknowledged. He remained under observation until March, 1872, when he was discharged, and at the time Dr. Macleod gave us the foregoing particulars (October, 1872), was well and providing for himself and family.*

Of the 341 cases of patients admitted at the Devon Asylum tabulated by Dr. Burman, 12 were entered as discharged "recovered." Two returned and died. Of the after history of 9 nothing seems to be known. One still remaining out is the case referred to by Dr. Bucknill in his 'Annual Report,' 1862, where he states that "this was the only case he had observed in which

* As this sheet passes through the press Dr. Macleod informs us that in these two cases the condition of the men continues satisfactory (June, 1873).

there was no affection of the mental functions, and the only case he had known recover."

Of 924 deaths at the Somerset Asylum, Dr. Boyd found 18 per cent. to be cases of General Paralysis. Dr. Burman found the ratio to be 18½ per cent. for thirty-six asylums in Great Britain in 1869, and of the cases dying at the Devon Asylum, 19·45 per cent. (Op. cit.)

The average duration of the disease is generally estimated at about thirteen months. Patients rarely live more than two or three years after the development of well-marked symptoms.

The writer saw a case at the Royal Naval Hospital at Yarmouth last year under Dr. Macleod's care, the symptoms of which had first manifested themselves upwards of *eight years* before. The patient lay on a water bed, perfectly helpless, extremely emaciated, and unable to articulate a word. His age was 37. He could move his arms freely, but not his legs, and could drag them up towards him when the soles of the feet were tickled. His appetite was voracious. There seemed no evidence of any mind being left, but Dr. Macleod said he believed he knew his attendant, who had waited upon him three years, and that there were more signs of intelligence than six months ago. A glance at the past history of this case furnished by Dr. Macleod well illustrates the most important features of this form of mental disease. When serving as engineer on the Mediterranean Station in 1864 he had decided delusions (their character is not stated), with occasional convulsive attacks, probably epileptic; he was, after a short time, sent to England, and was soon able to attend to light duties at Portsmouth. In the following year he proceeded to China in a man-of-war, but completely broke down before he reached the Cape of Good Hope, giving expression to delusions of an exalted character about his riches and the amount of money in the bank. In December, 1865, he was invalided at the Royal Naval Hospital, Cape of Good Hope, for "Dementia and General Paralysis," and arrived in England, May, 1866. In the course of a month he was sent to the Royal Naval Hospital, Yarmouth, when his symptoms were as follows:—Too demented to give any account of himself. Memory completely gone. Much tremor of upper lip on attempting to speak; speech thick; articulation difficult. Tremor of tongue, which he protruded with great difficulty. Very unsteady on his legs. Pupils acted regularly. Appetite very good; considerable emaciation. Rests well at night. Habits cleanly. By the end of the year he had become stout, weighing 16 st. As he increased in size, he evidently became even more demented; his appetite diminished. Very difficult sometimes to understand what he intended to say. Motor power in lower extremities less.

In January, 1867, he suffered from epileptiform convulsions, after which it was observed that the motor power had considerably diminished, and he could no longer stand to wash himself, without assistance. He went on to the end of the year quiet and inoffensive, by day, sitting in the mess-room in an easy chair, or when the weather was warm, he was removed to the airing ground. He became wet and dirty in his habits. Weighed 14 st. A note in 1868 says, "He is now confined to bed, as when sitting up he was constantly attempting to walk and was in danger of injury from falls." In May he was found to weigh only 11 st. Refused food, and required stomach-pump. Excited and noisy, saying, as well as he could, that "he was King of

England, and how dare they retain him in bed," and attempting to talk about dollars, money, and the bank. By the end of the year he was helpless and extremely emaciated. In 1869 he still talked about his riches. In 1870 the note occurs that, although unable to speak or walk, he nevertheless shouts and howls, and in 1871 that he requires constant attention to keep him clean and dry. Thighs bent upon abdomen, and legs bent under the thighs. Epileptiform convulsions occasionally occur. This brings the patient's history down to a period when his state was much the same as when the writer saw him in 1872.

In another case (G. H.), in the same dormitory, the writer saw a patient, a boatswain, æt. 40, who was admitted *six* years before, with decided symptoms of General Paralysis and Dementia.

We may add to the foregoing that, out of 271 cases admitted into the Devon Asylum, only 7 lived more than four years after admission. In 38 cases the total duration of the disease was ascertained, and the average proved to be one year and nine months. With the female patients the duration was one year longer than with the male patients ('West Riding Asylum Reports,' vol. i, p. 139).

Paralytic Insanity.

Burrows in his Commentaries (1828) made the observation that no malady is so intimately connected with mental derangement as apoplexy and "the extension of the apoplectic attack," paralysis, but he added, "its affinity is recognised in the twofold light of cause and effect." He says that comparatively few cases originate in apoplexy, and points out that this form of apoplexy is essentially different from that which terminates the life of the insane. "Sanguineous apoplexy is the species commonly originating Insanity; and those in whom the sanguineous apoplectic diathesis prevails may be considered as almost equally possessing the maniacal diathesis; it is difficult to pronounce which attack is most threatened. . . . . If the attacks of apoplexy are slight and often renewed, the mind is very prone to extreme irritation and aberration; when stronger and a partial recovery takes place, Insanity is sometimes temporarily, sometimes permanently, developed." With sanguineous apoplexy as a cause, he contrasts serous apoplexy as an effect and termination of Insanity. Burrows speaks of "the peculiar species of paralysis which Bayle describes" (G. P.) as quite distinct from the cases of Insanity originating in apoplexy to which he refers.

We recently examined a patient in the Bootham Asylum, York, which in this connection presents several points of interest. We are indebted to Dr. Needham for allowing us to consult the case-

book and make use of the particulars entered there regarding his history and symptoms.

The patient, a clergyman, when officiating in the pulpit, had "a fit;" he lost his consciousness, and from that time the pupil of the left eye became widely dilated, and ptosis of the left eyelid has remained. He was hereditarily predisposed to mental disease, but decided symptoms of Insanity (irritability, and loss of sleep), did not declare themselves until more than five years afterwards. His friends, however, distinctly connected the seizure and the mental disorder. He manifested some tendency to suicide, and on admission to the asylum in 1862 (æt. 40) he was in a state of partial dementia with delusions. He would sometimes refuse to answer questions; at other times would be cheerful and loquacious, and reply coherently although childishly. The sensory phenomena were striking. He constantly affirmed that he was dead, that he had no legs, arms, or body, that he only weighed six pounds and was but two years of age, that he had no sleep for two years, and that he could not either speak or move. Yet, if questioned respecting his former life he would give a correct account of the various changes which have befallen him. His memory of former events seemed to be unimpaired, but for recent incidents none whatever, not being able to recollect how or when or by whom he had been brought to York. Volition was almost *nil*. He could be led and persuaded like a feeble child. In early life he was of strong mind and body, and at Cambridge he graduated with high honours. His general appearance is described as one indicating serious organic disease of the brain. There was no hemiplegia, but there was a general loss of muscular power. He was wet and dirty in his habits.

He improved remarkably under good care and treatment, and had considerable liberty granted him in his walks outside the asylum—a privilege which he, however, abused by coming home drunk. He was always a free liver.

When seen by the writer (ten years after admission) the prominent symptom was paralysis of the third nerve, as indicated by ptosis of the left eyelid and extreme dilatation of left pupil. He could see with both eyes, but imperfectly with the left. Tongue not tremulous (appeared on admission to be so) or devious. He spoke well and walked fairly. Beyond a narrow range of ideas there was nothing very striking elicited in conversation. His general aspect was more like that of a farmer than a clergyman.

To the foregoing we will only add the following case:—

In the appendix to Dr. Skae's 'Annual Report' for 1871, is recorded the death of a female patient who some years previously had a paralytic seizure.

After a period of good health, Dr. Wright states that Insanity came on gradually. The symptoms were general failure of the mental powers, manifested by a blunting of the perceptions, impairment of memory, general nervous restlessness, and mental irritability, and, finally, hemiplegia and aphasia with difficulty of swallowing. A *post-mortem* revealed softening of the anterior part of the right frontal lobe, which Professor Turner regarded as of long standing.

Epileptic Insanity.

We have had repeated occasion to refer in the course of this work to states of Insanity complicated with epilepsy, especially in the sections on Moral Insanity and Homicidal Mania. See pp. 252, 267. The subtle influence of epilepsy or rather of that condition of the nervous system which gives rise alike to epileptic seizures and certain mental symptoms, if strikingly shown in the loss of memory, is perhaps still more remarkably manifested in the change which takes place in the moral character, either permanently or during a brief period of mental epilepsy with or without a convulsive seizure. In a large number of cases, the actual or comparative sanity of the patient for considerable intervals of time, the freedom from irascibility, passion, or violence when removed from circumstances calculated to irritate, render it difficult to place such persons under restraint until an act has been committed which necessitates sequestration.

It is to be observed that very frequently the presence of Epileptic Insanity is indicated not by epileptic fits, but simply by the character of the mental disturbance, the paroxysmal gust of passion, the blind fury, without an adequate cause.

As experience shows that the mere epileptic vertigo or *petit mal* is quite as dangerous to the integrity of the brain as the *grand mal* (or even more so), the very cases in which the most serious consequences follow are those in which it is the most difficult to prove that disease sufficiently accounted for the act. (See p. 266-7.)

It is customary to speak of a Masked Epilepsy, the "Epilepsie larvée" of M. Jules Falret,* and (subsequently to him) Morel,† marked by eccentric acts or a sudden paroxysm of violence without a distinct epileptic seizure.

In the following case, unmistakable epileptic fits occurred at one

* "L'invasion de ces états subite, la perte de la memoire les suit toujours; les actes sont instantanés, d'une violence exceptionelle; les hallucinations sont terrifiantes, et à tous les accès, c'est toujours la même succession de phénomènes." ('Annales,' Janvier, 1873).

† "Les états d'epilepsie larvée sont accompagnés de symptômes particuliers, parmi lesquels se trouvent au début, l'instabilité excessive du caractère, la mobilité; plus tard les transformations du délire, les actes instantanés, se reproduisant avec une véritable périodicité. J'ai signalé aussi les bruits éclatants que les malades entendent et qui ne ressemblent en rien aux bruits dont se plaignent les délirants persécutés; il y a là quelque chose de tout spécial" (Morel, Idem).

period of the patient's life, while at another maniacal symptoms took their place.

In the 'St. Bartholomew's Hospital Reports' (1870), Dr. Thorne reports a case of epilepsy marked by ordinary convulsive attacks, but interesting from there being also from time to time attacks of mental excitement, which appeared to take their place. Though a temperate and well-conducted man, he would in these states seize a knife and declare that he would kill his children. After the paroxysm terminated, he would be quite oblivious of what had occurred. At another time he would steal. "On one occasion he was observed to be suffering from considerable mental dulness, and on his person were found parcels of violet and other scented powders, which he could have had no object in purchasing, and of which he declared most emphatically that he knew absolutely nothing."

The exaltation of the religious sentiments in epileptics has been recently pointed out by Dr. Howden, the Superintendent of the Montrose Asylum (see article in 'Journal of Mental Science,' Jan., 1873). A number of interesting cases are given, displaying strong devotional feelings or religious delusions, in striking contrast with the homicidal propensities to which we have mainly referred. We give the following (curtailed):

J. A—, æt. 13, a good-looking intelligent boy, who, though an epileptic from infancy, has none of the physiognomic characters of the disease. During his lucid intervals he is active and intelligent. After the fits he becomes excited, subject to delusions, and given to wander, and exhibits strong amorous propensities. On admission he told me he was Adam, born again into the world. When questioned as to his previous life in the Garden of Eden, he replied that he had been so long dead that he could not be expected to recall particulars, but added that it was perfectly true that he had eaten the forbidden fruit, and when asked why he had done so he replied, "Its all very well to blame me, but you would have done just the same thing if you had been in my place." He pointed to a picture of a woman on the wall which he said was a portrait of Eve. He says he has been in Heaven, and describes what he saw there. He has been in the Asylum now for two years, has fits every two or three weeks, and on recovering from them he is dull and stupid; then he becomes possessed of some extravagant delusions, always of a religious nature. When questioned as to the ground of his belief, he generally says that it has been revealed to him, and that he feels it is true, pointing with his finger to his epigastrium.

A large number of cases in our Asylums have passed beyond the transient and delusional forms of Epileptic Insanity, and having gradually succumbed to mental deterioration, are examples of hopeless Dementia, subject to "fits" or attacks of vertigo.

Is an ordinary epileptic to be always regarded as irresponsible? If it cannot be positively said that he is, yet the fact of being subject to fits must form the strongest presumption in his favour.

Tardieu reports the case of a man who had smuggled goods

to a large extent and was pursued by the custom house officers. He killed two of them. He was proved to be subject to epileptic fits. It must be admitted that in such a case the amount of a man's responsibility ought not to be rated so low as that of the man who is impelled during an epileptic seizure (however transient) to commit an unprovoked act of violence.*

To the foregoing we append the sphygmographic tracings which Dr. Thompson has obtained in epilepsy, and has published in the West Riding Asylum Reports, vol. ii (see *antea*, p. 326).

Fig. 1 exhibits what "may be accepted as the type while the epileptic 'status' exists. . . attributable to a lax condition of the vessels."

FIG. 1.

Fig. 2 represents the tracing of the pulse of a man during a day

* On Epileptic Insanity, see "D'une Forme mal décrite de Délire consecutif à l'Épilepsie (*stupidité épileptique*) par Delasiauve," in the 'Annales,' 1852, p. 491; 'Du Délire Épileptique,' by Hanshalter, 1853; Flemming's 'Psychosen,' p. 118; Delasiauve, separate work on 'Epilepsy,' 1854; Trousseau, 'Bull. de l'Acad. de Méd.,' t. xxvi, 1860-61; Falret, 'De l'état mental des Épileptiques, Arch. gén. de Méd.,' December, 1860, &c.; Morel, 'D'une forme de délire, suite d'une sur excitation nerveuse se rattachant à une varieté non encore décrite de l'Épilepsie larvée,' 1860; and especially Arthaud, "De l'état mentale des épileptiques au point de vue medico-legal" ('Gaz. Méd. de Lyons,' 1867); "Discussion sur l'épilepsie larvée," 'Annales,' Janvier and Mars, 1873; Dr. Adam Addison, "Clinical Notes regarding Epileptic Insanity," 'Journal of Mental Science,' April, 1866. In this paper (which we had overlooked) the writer states, that of 41 epileptic patients in the Montrose Asylum, 21 were, and 20 were not, paralysed. The mean internal heat of the body was 98·9; the highest being in those who had suffered from fits in the day. Of 32 cases examined, the pulse was of normal fulness and firmness in 23, and feeble in 9. In 50 cases, loss of consciousness was the first symptom in 39; 27 bit the tongue during fit; 30 uttered cry before fit; 48 fell during fit; 15 had fits during the night only, 35 both day and night; 3 did not have comatose symptoms. Of these, 13 were *always* irritable and vicious; 13 *before* the fit, 26 *after* the fit; and in 4 there was no mental change. Dr. Addison found the urine greatly diminished when fits were severe and attended by mental excitement. The sp. gr. was high, with abundant lithates and diminution of chloride of sodium, urea, phosphoric and sulphuric acids.

on which the patient was seized with several fits. It is somewhat modified by his taking Bromide of Potassium.

Fig. 2.

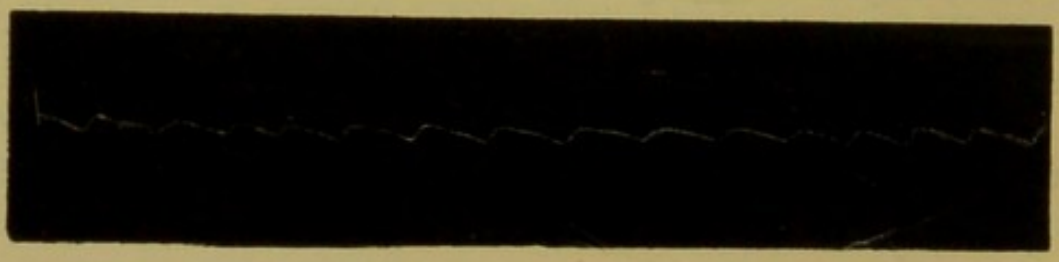
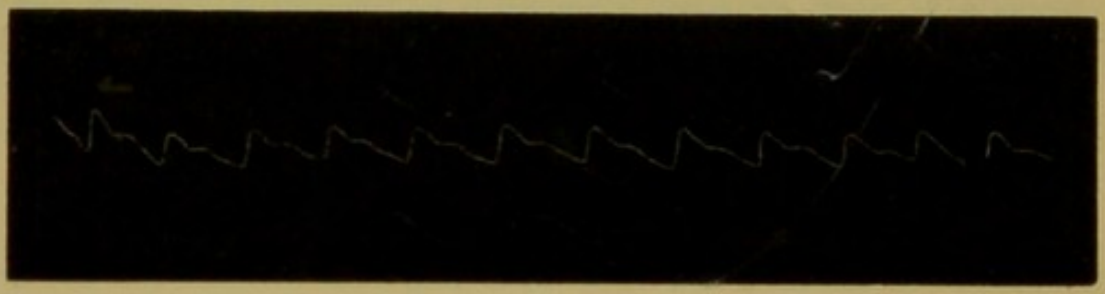


Fig. 3. With these may be contrasted the tracing obtained by Dr. Thompson from a colleague in good health.

Fig. 3.



Senile Insanity

may assume the form of Mania or Melancholia, but is best known as Dementia, for description of which see "Senile Dementia," p. 200.

We may also refer the reader to an article by Dr. Anstie in the 'Journal of Mental Science' "On certain nervous affections of Old Persons" as having an important bearing on the Insanity of old age. In this article he observes that frequently allied with, but occasionally independent of Insomnia and muscular restlessness is a peculiar state of mental irritability of the aged. "I am not now speaking of patients in whom there is mental alienation amounting to Senile Dementia. Far short of this, there is a phase of mental change in the aged, which is sometimes inexpressibly trying to the patient himself, and still more to all those who are brought into contact with him. It may be said to consist in a peculiar perversity, a tendency to offer vexatious and frivolous delay and opposition to everything which is suggested by others,

however important the occasion. This is the typical character of the mental state; but, in truth, it shades off by imperceptible degrees into the form of Senile Dementia, with occasional or permanent delusions. They are just that sort of folk who insist on making perverse and unreasonable alterations in their wills when these had been settled long before in a just and convenient manner, or who quarrel in their last days, upon some frivolous pretext, with the friend of a lifetime." (April, 1870.)

Pubescent Insanity.

It is not surprising that so great a revolution of the system as that which occurs at puberty should exert a great influence upon the nervous centres, and should be attended by serious risk to their integrity. As a matter of fact, however, we know that our Asylums do not admit any considerable number of cases (we refer now to the male sex) at the age of puberty. The explanation is, that the abnormal mental condition which originates in the evolution of the reproductive system at pubescence, is not usually manifested in a way which brings a youth to an asylum. He may be expelled from school for strange conduct, for stealing, or for dangerous impulses, but he is probably not regarded in any other light than a wicked boy. In the course of the next few years he gives infinite trouble to his parents, but they do not recognise his case as one of Insanity. To save repetition we may here refer to the remarks already made in the section on Moral Insanity. There are also cases in which, without moral perversion, there is great depression of spirits; others in which there is a decided maniacal paroxysm, but such an occurrence must be regarded as rare.

Those cases in which the moral character is mainly affected often prove to be epileptic; while those in which depression and disgust of life are prominent symptoms are illustrations of Masturbatic Insanity, and will be spoken of in the next section.

Masturbatic Insanity.

Many years ago (1844) Dr. Luther Bell, of the McLean Asylum, Massachusetts, and Dr. Ray, pointed out in graphic terms this state of mental disorder as "a form of Moral Insanity." Sooner

or later, however, decided delusions appear. The former described it as characterised by *strong suspicions of threatened personal injury,* of calumny experienced, of secret enemies, and analogous hallucinations, the patient at the same time evincing but little aberration in ordinary outward manner and conversation. "This type of disease," he says, "is so peculiar that it and its presumed cause are most generally correctly recognised on the application to the Asylum for admission, and before the patient is seen. The patient is committed with the strong anticipation that so slight a degree of Insanity can be readily and quickly removed. Vain hope! Experience shows just enough of recoveries in such cases to prevent absolute despair, and no more. Nay, more, the progress of the mind is commonly downward; more than in any other form of disease it is difficult to sustain the sufferer's self-respect, and to make him tolerably comfortable. Ordinary motives fall powerless upon him. If the delusions are few, the disposition is sulky, mischievous, and dangerous; if many, they are always irritating and distressing. The hallucinations of these sufferers almost always run in a peculiar channel; spirits or evil-disposed persons whisper through flues and walls, or at the distance of miles, suggesting everything which is outrageous and insulting; gases, and influences more etherial, are scattered around them to render their existence wretched; nauseous matters are placed in their food; their sleep is wantonly disturbed by gross personal outrages, and the like. They are subject to be driven to fury, and commit acts of violence, if some particular person is fixed upon as connected with their wrongs. They are also subject to impulsive acts of violence where no delusion can be presumed to have prompted them, and where, indeed, the patient, after the paroxysm has passed, is unconscious of any delusion—he has committed the act of violence with no other explanation than that it crossed his mind to do it, and that simultaneously it was done.

"Motives act scarcely at all upon these sufferers, except fear; higher appeals are powerless." ('Annual Report,' 1844.)

Dr. Bell concludes this melancholy picture by expressing the opinion that (although the intellect is sometimes wonderfully little affected) the happiest thing that can happen for this class is to sink into Dementia. "Their own sufferings and those of their friends rarely have any earlier quiet."

Schroeder van der Kolk has also well described this form of mental disorder. "If," he says, "one perceives in a young man a certain shyness, and an evasive and cast-down look, a dull irresolute character, which are soon accompanied by stupidity and confusion of head, and weakness of memory, then one must be mindful of this sad vice. In addition to this, there is an inconstancy of character and an inconsistency of demeanour, according as the unhappy tendency is indulged without restraint, or as in some degree a check is put to it. The fear of man often arises; they think that every one on the way looks at them, complain of it, allow themselves to be misled by all kinds of suspicion and perverted imaginations. If there occur, moreover, fanatical notions and self-accusations, then we can have scarcely a doubt as to the cause. We find also, in general, an irregular circulation, the hands cool, yet bedewed with sweat, the head hot, especially the neck and back of the head, and vertex. Biting of the nails, scratching of the fingers, from which numerous small hang-nails arise, may occur in other forms of melancholy, but most frequently in this. The bowels are also sluggish. . . . . The dull look is, for the most part, quite characteristic. The diminution of the intellectual power passes at last into Dementia. As a rule, it comes on more rapidly in young persons; it also occurs more quickly and intensely in the male sex." ('The Pathology and Therapeutics of Mental Diseases,' 1861-2, Eng. trans., 1870.)

Lastly, Dr. Skae describes this vesania in words which all familiar with it will admit to be eminently truthful. "I think," he says, "that this vice produces a group of symptoms which are quite characteristic and easily recognised, and give to the cases a special natural history; the peculiar imbecility and shy habits of the very youthful victim; the suspicion, and fear, and dread, and suicidal impulses, and palpitations, and scared look, and feeble body of the older offenders, passing gradually into Dementia or Fatuity." ('On the Classification of the Various Forms of Insanity,' 1863.)*

* See also Maudsley's "Illustrations of a Variety of Insanity," 'Journal of Mental Science,' July, 1868.

Uterine and Ovarian Insanity (in early or later life).

In Dr. Skae's classification, utero- or ovario-Insanity is a term employed to designate the Insanity of old maids. We think, however, that it may include the mental disorders arising out of defective or irregular menstruation in early life. Dr. Skae's "Amenorrhœal Insanity" would, in this way, form a sub-class. Thus, at p. 267, we have described a case in which a homicidal impulse was due to disordered menstruation, as an example of "Uterine (Skae's Amenorrhœal) Insanity." Many other cases of this kind will be found scattered throughout this work.

Skae originally made Nymphomania a separate form of Insanity, but subsequently relinquished it. So far as such cases arise from affections of the reproductive organs, they may be referred to Uterine or Ovarian Insanity. It is a question whether Hysterical Insanity might not be also merged into this division. Uterine or Ovarian Insanity *proper* might be retained for those cases especially intended by Skae, which are commonly associated with Ovarian, and sometimes with Uterine disease, "of which one of the most common symptoms is a sexual hallucination—the belief that certain persons visit them and cohabit with them during the night, and other similar delusions."

For description of Nymphomania, see p. 287, and the Appendix for a case (J. M.); also case of Acute Dementia from suppressio mensium (H. M.)

In this connection we may observe that Dr. Hergt, of Illenau, regards as the first link in the causation of Insanity, deviations from a healthy state of the uterus, which he has observed in a large number of female patients on post-mortem examination.

See the chapter on Pathology for some observations on disease of the reproductive organs, including ovarian tumours.

Hysterical Insanity.

The form of mental disorder in which uncontrollable excitement is accompanied by the symptoms recognised as hysterical, and which is known as Hysterical Mania, is so distinctive in its features, that the word is now of a symptomatological rather than, as originally intended, an ætiological character. Most vague,

however, as is the term hysteria, its relationship to states of the reproductive system seems sufficiently marked to justify Hysterical Insanity being placed under this division. Professor Laycock, while, of course, insisting upon hysteria having its seat in the nervous system, lays it down as a principle that "women in whom the generative organs are developed or in action are those most liable to hysterical diseases. Indeed, the general fact is so universally acknowledged, and so constantly corroborated by daily experience, that anything in the nature of proof is unnecessary." ('Nervous Diseases of Women,' p. 9.) The insane cunning which often forms a striking symptom of hysterical disorder of the nervous system is well described. "Of all animals," he says, "woman has the most acute faculties; and when we consider how these may be exalted by the influence of the reproductive organs, there is not much ground for surprise at the grotesque forms which cunning assumes in the hysterical female, although they have caused much speculation and astonishment. Insane cunning is usually exhibited in attempts at deception, but occasionally in a propensity to steal, or rather to steal slyly. It may be remarked that when it occurs, it is as much a symptom of hysteria as any corporeal affection whatever. It is a true Monomania, and is most likely to occur in the female who is hysterical from excess of sexual development,—one possessing the utmost modesty of deportment, and grace of figure, and movement,"—a modesty springing out of that feminine timidity which is itself "a marked trait of the hysterical. The slightest noise, or any fancied appearance of danger, is sufficient to excite alarm. Sometimes it accompanies paroxysmal affections, or is a Monomania when it is exhibited in terror; the patient fears she knows not what, will run somewhere or anywhere, and utters the most wailful cries" (p. 352-3).

Those labouring under hysteria are described in a few words by Skae as presenting all shades of mental disorder, "from singular moral perversion, living without food, giving birth to mice and toads, passing all sorts of curious things with the urine, up to the long and singular forms it presents with varied sexual and erotic symptoms, until we find it presenting a truly maniacal aspect."

On Hysteria in connection with Melancholia, see p. 236, and for a case presenting features of Hysterical Catalepsy, the next section. A case of catalepsy will be found at p. 239.

Insanity of Gestation or Pregnancy.

Synonyms.—*Insania gravidarum* (Med. authors). *Folie des Femmes Enceintes* (Fr.)

This disorder is not of frequent occurrence. Of 383 female admissions, during ten years, at the Asylums of Eberbach and Eichberg, only four were attributed to pregnancy. It appears that cases of Insanity of Gestation occur chiefly about the end of the third or the beginning of the fourth month, the form of the mental disorder being Melancholia rather than Mania. (See article by Arnold von Franque, 'Wurzburgher Medizinisch Zeitschrift,' 1863.) Griesinger attaches considerable importance to the influence of the emotions in the first pregnancy, in those predisposed to Insanity. It is, indeed, a matter of surprise that more women do not become insane, under such altered circumstances, than is the case. We must, however, regard as abnormal mental states the morbid longings, pica, &c., of pregnancy. "Sly stealing," as Laycock points out, is a very characteristic feature of mental derangement from pregnancy.

Delivery may or may not exert a beneficial influence upon the mental malady. We do not refer to such mild forms of mental disturbance as the above-mentioned "longings" of pregnancy, but to actual Insanity. Recovery at the time of parturition often proves only temporary.

Symptoms of mental disorder may arise during pregnancy and recur after labour. This occurred in the following case under the writer's care, in which the disorder assumed an hysterical form.

When in service, a young woman, only 18 years of age, became *enceinte*, and about a month after conception had "a fit," which appeared to have been hysterical in character. At nearly the full time of her pregnancy she was frightened by a thunderstorm, which caused her to be ill for several days with pain in the head and vertigo. Eight days afterwards she suddenly fell down unconscious, burnt her hand in the fire, bit her tongue, and foamed at the mouth; she was bled by the surgeon who attended her, and on the following day a dead child was born. There were frequent attacks of convulsions during labour. From this time till a fortnight afterwards, when we first saw her, she was excited and incoherent; the milk had soon been dispersed, and the lochia had ceased the sixth day. She was very pale; pupils dilated; pulse 100, and weak; tongue flat, furred posteriorly; bowels confined; urine light coloured. She got very little sleep, and was always worse during the evening and night. During the following week she made decided progress, though frequently

"roaming and outrageous;" then she had an hysterical attack which lasted about eight hours, apparently unconscious, but no convulsions. These attacks recurred several times, but she steadily recovered from her maniacal condition. At times she assumed a cataleptic attitude. The catamenia appeared two months after her confinement. It should be added to the foregoing that an aunt of her father was the subject of suicidal melancholy, and that she had an uncle who was a desperate drunkard. Her mother attributed her daughter's insanity to having herself "fretted very much on account of her husband's illness and death" when pregnant.

Of six cases of Insanity of Gestation reported by Leidesdorf ('Journal of Mental Science,' Jan., 1873), "four had already been mentally deranged before marriage. Pregnancy and the puerperal period heightened the mental disorder, and the patients passed into chronic incurable Insanity. In the course of a year one died in a condition of well-developed Dementia. . . . In two cases the attack came in the form of Melancholia in the fourth month of pregnancy; the one case underwent another excitement in the puerperal period, but terminated in recovery. The second case was a woman who in each pregnancy (this was the third) fell into a condition of considerable depression, with horrible hallucinations, and after delivery found herself recovered."

Dr. Batty Tuke has reported the particulars of 28 cases of Insanity of Gestation, and observes regarding the period at which the attack occurred, that "the fact is not without interest that the great majority of the attacks occurred at those periods of utero-gestation which are generally considered critical." Three became insane during the third month, five during the fifth, one during the sixth, nine during the seventh, and one during the eighth.

The form of mental disorder was chiefly Melancholia. Out of the total number of 28, 15 were of this type, and 5 were in a state of Dementia with Melancholia. Nearly half either attempted or meditated suicide. In two unpromising cases there was Mania with exaltation. Moral Insanity was observed to be "by no means unfrequent, dipsomania being the most common symptom. This generally occurs during the earlier months of gestation, and is probably only an aggravated form of the well-known morbid craving or longing for particular articles of food which characterises the earlier months of pregnancy. As it advances it increases in intensity and gives rise to actual delusion and attempts at suicide. In two cases the moral perversion was evidenced by a homicidal impulse."

In a case characterised by craving for drink, the woman became suicidal and so

dangerous as to render the restraint of an asylum necessary. After three months, during which her state was marked by moral perversion, sudden improvement took place; she began to work, gave over lying and stealing, and her general demeanour was agreeable. She recovered at the commencement of the fifth month of pregnancy and was discharged. After her confinement the symptoms of melancholia reappeared, and she made a determined attempt at suicide. On readmission she was deeply melancholy, but under tonic treatment recovered, and left the asylum well.

Three months after, having unfortunately become again pregnant, she manifested the same moral insanity as before, only with greater intensity. She also had delusions about her husband and neighbours; so she continued until the birth of her child—a fine boy. Three months after her recovery from labour the following note was made:—"No improvement in her mental condition. A more complete moral perversion could not exist in any one. She lies, steals, tells the nastiest stories without a blush, has not a grain of gratitude in her composition, invents the most dangerous stories against those who have been kindest to her, and seems, in fact, to be an incarnation of evil. She became quite unbearable in the sick-room, so her baby was weaned and she was removed to another part of the house." Again, four months after, "she broke a number of panes of glass to-day. Judgment, powers of reflection, and self-control, much impaired. Neat and tidy." Subsequently she again improved, and was removed by her husband; but it has since been ascertained that, being again pregnant, her old malady has reappeared. She is now a patient in an asylum. ('Edin. Med. Journ.,' June, 1867.)

Hereditary predisposition was ascertained in 12 out of the 28 cases. In 18 cases it was the first attack, in 5 it was the second, and in 2 the third. In 4 cases the patients were not married.

As bearing on prognosis, it may be stated that 21 of these cases recovered, 5 became demented, 1 died, and 1 remained under treatment.

Puerperal Insanity (proper).

Synonyms.—*Insanity of Parturition. Insania post-partum. Vesania puerperalis* (Med. authors). *Folie puerpérale, Manie puerpérale* (Fr.), *Puerperalwahnsinn* (Ger.).

Definition.—The term Puerperal Insanity, Mania, or Madness, is by different writers employed in a restricted or a comprehensive case. If the latter, it is made to comprise—(1) cases occurring during gestation (see last section); (2) those arising within a comparatively short period after parturition; and (3) those due to lactation or weaning, especially the strain upon the system caused by the former when prolonged. It is here intended to imply by this expression the class of cases referred to in the second division, but it must be confessed that the line between the two

latter divisions is often difficult to determine, and hence an observer will refer the same case to lactation which another refers to the puerperal state. Again, we, in any case, include under puerperal Insanity proper, and exclude from the Insanity of lactation, the large proportion of cases which arise not only from labour itself, but from the excitement of the lacteal system. If insanity arise in a woman who has been suckling about three months, we call it a case of Insanity of Lactation, while if only two, we perhaps call it a case of simple Puerperal Insanity. The distinction as regards time is therefore somewhat vague, and each case on the border line must be judged on its own merits, as to whether it arises chiefly out of the puerperal state or the later period of established lactation. We assume about sixty days for the former.

General Remarks.—Puerperal Insanity is a disorder which from its importance merits special attention. It invades the sick chamber at a time when it is most acutely felt; nor is it, if we include mild cases, of very rare occurrence.

The statistics of simple puerperal Insanity are, however, on a small scale, those cases which arise from lactation being usually included. Of 2181 female patients treated in the Royal Edinburgh Asylum, in which the cases were distinguished by Dr. Batty Tuke, 73 were examples of puerperal Insanity proper, or 3·3 per cent. But this very imperfectly represents the number of occurring cases, because in many instances the patient recovers without being sent to an asylum.

It is a remarkable fact, however, as has been pointed out by Dr. Reid, that, in lying-in hospitals, the number of patients who are so attacked, is very small. He states, that at the General Lying-in Hospital, Westminister, in which patients remain for three weeks after labour, out of 3500 who were delivered there, only nine were affected with Insanity. The experience of several other large institutions is to the same effect. We do not observe that Dr. Reid offers an explanation. It might, perhaps, be accounted for by the very favorable circumstances (quiet, good nursing, and sufficient nourishment) which surround the hospital patient, as compared with those of a patient of the same destitute class at her own home. Nor must it be overlooked that the absolute number of cases of puerperal Insanity may be large, while, as compared with the enormous number of cases of labour, it may appear small.

It may seem extraordinary that, in Esquirol's experience, patients of the higher class, among whom quiet, good nursing and sufficient food would not be wanting, suffered most from this malady. Here, however, these favorable circumstances may have been counterbalanced by others of an unfavorable description, more or less connected with luxurious living. French statistics appear to show a larger proportion of cases of Puerperal Insanity than those of our own country, but they include cases occurring from lactation, so that it is not certain that, if a fair comparison were made, the results would differ. This must be borne in mind when Esquirol states that at the Salpêtrière a a twelfth and, during some years, a tenth of the female admissions were due to Puerperal Insanity.

With regard to the time at which the mental symptoms appear, in the above 73 cases at the Royal Edinburgh Asylum, 20 certainly, and probably 27, showed signs of Insanity from the first up to the fifth day after labour, 36 from the fifth to the end of the fourteenth, and 10 or 11 from the fifteenth to the sixtieth day. Of 52 cases collected by Esquirol, the corresponding numbers were as follows: first period 16, second period 21, third period 17. Esquirol fixes on 60 days as the extreme limit of the lochial discharge.

From the above it will be seen that by far the largest proportion of cases occurred during the first fortnight after labour. Dr. Burrows found the third and fourth day the most obnoxious to the disease. Of 66 cases reported by Dr. Macdonald, formerly physician to the Bloomingdale Asylum, 29 became deranged within the first week, and 15 during the succeeding three weeks, that is, 44 cases during the first month. In the course of the second month 5 cases occurred, thus confirming the general rule that the danger diminishes as the distance from the period of parturition increases.

Puerperal Insanity more frequently attacks females in their first than in subsequent labours. Of the Edinburgh Asylum cases, the attack came on in 34 instances on the occasion of the first confinement, and in 16 instances on the occasion of the second. It is shown that "an increase of liability to Insanity exists between the ages of 30 and 40 in child-bearing women, and that first confinements occurring at that period are peculiarly frequently followed by true Puerperal Insanity." In one case the patient

had had Puerperal Mania three times before; in four cases, twice; in ten, once.

Symptoms.—Although it must not be supposed from the usual expression "Puerperal Mania" that Mania is the only form of Insanity which occurs in this condition, Melancholia, Delusional Insanity and Dementia being possible results, yet Mania is undoubtedly the most frequently developed.

In the 73 cases reported by Dr. Batty Tuke, 57 presented the symptoms of acute Mania, 15 those of Melancholia, and one was a case of Epileptic Insanity. When cases of Puerperal Insanity (proper) assume the form of Melancholia, it appears that they are likely to prove recurrent cases of Insanity of Gestation, Mania, as we have said, being the usual form of Insanity arising simply from parturition.

The character of the Mania manifested in the puerperal state differs somewhat from that of Mania arising from other causes. Some, however, deny there being any difference whatever. Dr. Gooch makes the remark, that were any one conversant with mental maladies to be introduced to a patient suffering from Puerperal Insanity, he would not be able to tell, without inquiry, that the case was of puerperal origin. "As to the pretended special value of erotic symptoms," observes Foville, "M. Marcé has demonstrated that there is nothing real in them, and we are entirely of his opinion."

A strong suspicion as to the nature of the attack would, however, often be excited, putting aside the physical accompaniments which would suggest the true state of the case. As Dr. Macdonald says, "In the acute form of the Mania which succeeds parturition, we observe an intensity of mental excitement, an excessive incoherence, a degree of fever, and, above all, a disposition to mingle obscene words with the broken sentences—things which are rarely noted under other circumstances. It is true that, in Mania, modest women use words which in health are never permitted to issue from their lips: but in Puerperal Insanity this is so common an occurrence, and is done in so gross a manner, that it early struck me as being characteristic." In his evidence in the Mordaunt divorce case Sir James Simpson said:—"Self-accusations of impropriety were a common symptom of Puerperal Insanity. The organ diseased gave a type to the Insanity, so that with women suffering from it

the delusions would be more likely to be connected with sexual matters."

Before the mental symptoms are fully developed, the patient becomes uncomfortable, peevish and restless, and cannot sleep; the head aches, and there is an altered expression of countenance. The milk and lochia are often either diminished or suppressed; the tongue is white, the bowels loaded, the urine generally scanty, and, Professor Simpson has pointed out, frequently containing albumen; the abdomen, in most cases, tolerant of pressure; the pulse accelerated, and usually irritable in character, rather than febrile. There is, however, a class of cases in which the pulse and other symptoms indicate an inflammatory condition of the system, and such cases are of a much more serious character. Dr. Burrows noticed them chiefly in connexion with the first secretion of milk (on the fourth or fifth day). Some of these are examples of Phrenitis, and not properly of Mania, but of 16,444 cases delivered at the Dublin Lying-in Hospital, three only are reported by Dr. Collins to have died of Phrenitis; others are examples of inflammatory action going on in the peritoneum, or other regions of the abdomen. Frequency of pulse is a symptom of primary importance. Dr. B. Tuke in observing that when an inflammatory pulse is present, the prognosis must be most unfavorable adds, "I am sorry to admit that in my experience, which extends to four cases complicated with internal inflammation, two of bronchitis, one each of peritonitis and pelvic cellulitis, the result was invariably fatal."

As the patient attacked by puerperal madness becomes more decidedly insane, "the talking is almost incessant, and generally on one particular subject, such as imaginary wrongs done to her by her dearest friends; a total negligence of, and often very strong aversion to, her child and husband are evinced; explosions of anger occur, with vociferations and violent gesticulations; and, although the patient may have been remarkable previously for her correct, modest demeanour, and attention to her religious duties, most awful oaths and imprecations are now uttered, and language used which astonishes her friends; the eye is wandering and unsteady, and the hearing most acute. . . . The *suicidal tendency* is not uncommon, especially in cases of Melancholia; and it is important to recollect the fact in the treatment of such patients. In 111 cases of Puerperal Insanity at Bethlem Hospital,

32 were affected by it." (Dr. Reid, in 'Psychological Journal,' No. 1, p. 135.)

A brief note or two of a case under the writer's care will serve to illustrate one form of Puerperal Insanity.

Mrs. C— was confined with her seventh child (a girl); labour perfectly natural. She had miscarried eighteen months previously, and had never menstruated afterwards. After the labour, the pulse was 80 and soft, the tongue clean, and the urine was passed the same evening. On the following day there was a fair lochial discharge, the pulse was only 80, and the skin was warm and moist, but she considered the supply of milk less than usual. On the *third* day the secretion of milk increased; the bowels had been opened in the morning by medicine. The pulse rose to 100. *Fourth* day: had a restless night and was feverish during the day. Pulse 120, soft and compressible. The tongue, however, was clean. *Fifth* day: less fever, and thought herself going on well. Pulse less frequent, 108, very compressible; tongue quite clean and moist. There was a good supply of milk, and the lochia were not unnatural in their character or quantity. No pain or tenderness in abdomen. The only thing she complained of was vertigo; evidently required support. *Sixth* day: same. *Seventh* day: the writer was called to see her at 6 a.m. The change of expression was very marked. She was in a sluggish state, and replied very incoherently to questions. It appeared that during the night she had been excited, talking nonsense, &c. The pulse was 120, full, but not hard. Tongue covered with a white fur, inclining to be dry; skin hot, but moist. The secretion of milk was now decidedly checked. The head was hot and had been very painful in the night; but the conjunctivæ were not injected, and the pupils were dilated. Towards evening the tongue became drier, with a brown fur down the dorsum; total inability to sleep; increased confusion of mind, &c. The case was clearly one of exhaustion, and was treated accordingly. In two or three days the unfavorable mental symptoms passed away, and the patient made a good recovery.

In the case of a poor woman who gave birth to an illegitimate child, this circumstance and poverty conspired to upset her mind, The attack did not come on until two months after her confinement. It was characterised by crying, laughing, and a total indifference to the baby. She was insane for about six weeks, recovering under morphia and iron. The child was weaned; but the catamenia did not appear until five and a half months after recovery. The child had hereditary syphilis. The mother subsequently married.

We had at one time a very troublesome case under care, one of Melancholia succeeding abortion, in which there had been alarming loss of blood. She was very anæmic, and for long the symptoms appeared to be little influenced by the pharmaceutic remedies employed; but she gradually improved.

In another case, a woman, aged 37, had a child, and recovered well from her confinement. In about five months, she became melancholic, absent, and was troubled with strange notions for which she was unable to account—scruples, suggestions, &c. She could not sleep; she was pale; tongue flabby and indented at the edges; pulse frequent and feeble; skin relaxed; bowels confined; urine sometimes thick, sometimes clear; no appetite; head cool; conjunctivæ pale. In about four months she recovered under obviously indicated remedies, but was subject to hysterical attacks for some time after.

In the seven following cases, the urine was tested for albumen.

A. B— had convulsions about six hours after delivery. The urine, which was smoky, was examined and found to be loaded with albumen and a thick sediment of lithates, sp. gr. 1040. The next day the fits were less violent, but she was quite maniacal, tearing up her clothes and otherwise misconducting herself; evacuations were passed in bed. Was purged with calomel and croton oil. On the following day she was less excited and the fits ceased. At the end of the week she was convalescent, and in ten days all trace of albuminuria had disappeared.

There was in this case some œdema of the legs for a week before confinement.

C. D— was attacked with convulsions during labour. The maniacal symptoms were more severe than in the previous case, lasting ten days. The urine was albuminous, and remained so three weeks. She recovered well.

In five mild cases of puerperal convulsions, attended with a rapid pulse, a good deal of excitement, but no decidedly maniacal symptoms, there was no albumen in the urine, which was pale and of low specific gravity. These patients (*primiparæ*) recovered in about twenty-four hours.

Ætiology.—Hereditary predisposition is a striking feature of cases of Puerperal Insanity. Among exciting causes are mental shocks of any kind, distress of mind, especially in unmarried women, a tedious exhausting labour, flooding, and the use of the lancet for puerperal convulsions.*

Prognosis.—Very favorable, unless it assumes an inflammatory or typhoid type (see p. 146). The mortality in Puerperal Insanity is not large. At Queen Charlotte's Lying-in-Hospital, during 36 years (1828—63), the whole mortality from all causes (number delivered 7736) was 198. Of these, 16 were cases of Puerperal Mania. The mortality at Bethlem is stated to be 4½ per cent. Of the 73 cases at the Royal Edinburgh Asylum, 8 died, 7 became demented, 2 were discharged relieved, and 56 recovered.

Of 38 attacks of Puerperal Mania occurring during the first month after labour, admitted into the West Riding Asylum (1869-72), 2 died (from a complication—Bright's disease), 31 recovered; 5 of these being discharged in less than three months, 14 in less than six months, 6 in less than nine months, 3 in less than twelve months, and 3 in more than twelve months. Five remained under care, in an improved condition ('Reports,' 1872, vol. ii, article by Dr. Pedler).

* A medical friend writes, "Two cases of convulsions occurred in my practice in one week whilst I was from home. Both were bled very freely at the time. On my return they were both maniacal (with no albumen in the urine). They were both delicate and highly nervous subjects; one was six months before she recovered her reason, the other twelve months."

Perfect recovery of the mental faculties follows in a large proportion of instances. If the lochia or the milk have been suppressed, their return will generally be the first sign of improvement. After a later period, the reappearance of the catamenia is equally important. In some cases there is for a time much weakness of mind, but this proves transient. Dr. Webster states, as the result of his statistics, that "three in every five cases of Puerperal Insanity may be confidently expected to recover within the year." Two thirds of Esquirol's cases were cured within the first six months after the commencement of the attack. At Bethlem the largest number were cured during the fourth month. Eighty per cent. of Dr. Macdonald's cases recovered; out of 53 recoveries, 34 took place within the first six months of the attack. Brierre de Boismont asserts that cases of Puerperal Insanity (exclusive of Melancholia) have recovered under his care, on an average, in about a week. He has always found refusal to take food a bad sign. To the foregoing statistics it should be added, that they do not, as Dr. Gooch and Dr. Prichard have observed, lead to a prognosis even sufficiently favorable, inasmuch as cases are not usually admitted into asylums in a recent, and therefore the most curable stage of the disease. "Of the patients about whom," says Gooch, "I have been consulted, I know only two who are now, after many years, disordered in mind, and of them, one had already been so before her marriage." *

Insanity of Lactation.

Synonym.—*Insania Lactantium.*

Definition.—Insanity caused by lactation; the period after labour being arbitrary, some fixing the minimum time at one, others at two months (see p. 351).

As to its frequency, it may be stated that of 2181 female

* See, in addition to Esquirol, Burrows, Gooch, Reid, &c., the evidence in the Mordaunt divorce case, 'Journal of Mental Science,' April, 1870; "Observations on Puerperal Insanity," by Dr. Boyd, idem, July, 1870; "A Contribution to the Study of the so-called Puerperal Insanity," by Dr. J. T. Dickson, idem, Oct., 1870; "On the Statistics of Puerperal Insanity," by Dr. J. B. Tuke, 'Edinb. Med. Journ.,' May, 1865, and June, 1867; 'Monographie der Puerperal-krankheiten,' Helm, 1840; 'Traité de la Folie des Femmes enceintes,' Marcé, 1858; "Puerperal Mania," by G. H. Pedler, L.R.C.P., in 'West Riding Asylum Medical Reports,' 1872, vol. ii.

patients treated at the Royal Edinburgh Asylum mentioned at p. 351, 54 or about 2½ per cent. were cases of Insanity of Lactation, using the term in the restricted sense already indicated.

From Esquirol's total number of cases of Puerperal Insanity (in its widest signification) we rejected, when speaking of Puerperal Insanity proper, those which occurred after the sixtieth day, considering that these more properly belonged to the division of Insanity of Lactation. These cases amounted to 38, of whom half became insane a few days after a forced or voluntary weaning, Esquirol observing that in his experience "nursing women, at least among the poor, are much more liable to become insane after weaning than during the period of lactation."

Symptoms.—The physical symptoms are usually those indicative of bloodlessness—pallor, palpitation, headache, inability to sleep, sense of weakness and sinking, &c.

Of Dr. Batty Tuke's 54 cases already referred to, the symptoms were those of Acute Mania, "severe, but evanescent," in 10, Melancholia of various degress of intensity in 39, and Dementia in 5. The maniacal symptoms rarely lasted more than ten days or a fortnight, and were generally attended with hallucinations of the different senses, and delusions. The Melancholia (which it will be seen was much the most frequent) was marked "by delusions either of a suspicious character, or as to personal identity, hatred of children, husband or friends, and a strong suicidal tendency." The latter was present in 17 of the total number of cases.

Instead of giving an ordinary case of Insanity from prolonged lactation, manifested by the usual characters of Melancholia followed by recovery, we subjoin an exceptional case, marked by acute maniacal delirium, and terminating fatally :

"A farmer's wife, æt. 27, was admitted into the Somerset County Lunatic Asylum. She was in a state of delirium ; attempted to injure her children, and also herself ; skin hot ; feverish ; pulse 120. The attack came on a week before admission to the asylum, and four months after childbirth ; she had a carbuncle on her back ; general health bad ; she was incoherent and wandering ; had lost her memory, and was destructive. She was an irritable person, but of a kind disposition. For the first week she had to be fed by the stomach tube ; pulse 80. She continued restless.

"She died four weeks after admission. The body was examined twenty-nine hours after death, and the dura mater was found to be preternaturally adherent to the skull ; the cerebral vessels congested with blood ; slight opacity of the arachnoid ; spinal cord natural ; redness of lining membrane of the bronchial tubes ; abdominal

organs large and congested; uterus two ounces and a half; mucous membrane vascular; dark, congested patches in the intestines. Cause of death meningitis, bronchitis, &c." (See this and other cases in 'Journal of Mental Science,' by Dr. Boyd, July, 1870.)

Ætiology.—Lactation prolonged beyond the strength of the mother and consequent anæmia and exhaustion.

The ill effects of long nursing are shown by the number who become insane in the latter months of lactation.

Of 54 cases at the Royal Edinburgh Asylum reported by Dr. Batty Tuke, 2 had become insane during the third month, 6 during the sixth month, 4 during the seventh month, 2 during the eighth month, 6 during the ninth, the same during the tenth, 5 during the eleventh, 6 during the twelfth, 2 during the thirteenth, and the same during the sixteenth. Hence 33 occurred after the sixth month. In 13 cases the month was not recorded.

In 8 cases the attack of Insanity appeared during the first nursing, in 4 during the second, in 9 during the third, in 5 during the fourth, in 6 during the fifth, in 2 during the sixth, in 1 during the seventh and the eighth, in 2 during the ninth, and in 1 during the tenth and the eleventh month. In the remaining 14 cases the women were multiparæ, but the exact confinement was not ascertained.

Prognosis.—When resulting simply from the anæmia induced by prolonged suckling, the prognosis is very favorable.

Of the 54 cases already referred to at Morningside, 39 recovered, and only 1 died, 12, however, lapsed into Dementia, 2 remained under treatment and were not promising cases. Of the 39 who recovered, 7 were under treatment more than nine months, 4 were eight months, the same number were seven months, 5 six months, 4 five months, 6 three months, 4 two months, 3 one month and 2 only three weeks.

Of 29 cases at the West Riding Asylum, 1 died, 27 recovered (6 in three months, 12 in six months, 5 in nine months, 1 in more than twelve months, 3 were convalescent), and 1 remained incurable (op. cit.). In these cases the symptoms of Insanity appeared from six weeks to twenty-one months after the commencement of lactation.

Climacteric Insanity.

It is stated by Dr. Tilt that between 3 and 4 per cent. of women suffering from nervous disorders at this period become insane. Probably this is an under estimate.

As the morbid mental phenomena which occur at the change of life depend in women upon the altered condition of the utero-ovarian apparatus, the mental diseases of the critical period of life are also examples of a Uterine or Ovarian Insanity. The term "Climacteric Insanity" was chosen by Dr. Skae to include the mental affections of the male as well as the female sex at this period of life. An intense craving for drink may be the prominent, and perhaps the only symptom which characterises the morbid condition of the system. Skae gives as pathognomonic of this form of Insanity, both in men and women, a class of symptoms which are certainly very common at this trial epoch of life, namely "a Monomania of fear, despondency, remorse, hopelessness, passing occasionally into Dementia."

During eight years the admissions under this head at the Hanwell Asylum (as regards women only) were reported as only eight in number. Of 361 female cases due to physical causes admitted into the Salpêtrière, 27 were attributed to this cause. As showing the imperfection of these returns it may be added that in Dr. Skae's Annual Reports for 1869-70-71-72, we find, out of 558 female admissions during these years, 62 cases of Climacteric Insanity. Among the males, out of 515 admissions, we find 44 cases reported.

Prognosis.—Unfavorable. As observed by Griesinger, "the various conditions arising from sexual super-excitation in men of advanced years, are very grave in a prognostic point of view; they generally proceed to Dementia. Schr. v. d. Kolk says, "if religious melancholy begins in the climacteric years, then the prognosis is very unfavorable."*

* See Tilt on 'Diseases of Women,' and 'On the Change of Life.' "Menstrual Irregularities," by Dr. H. Sutherland, in the 'West Riding Lunatic Asylum Medical Reports,' vol. ii, 1872.

Alcoholic Insanity.

Synonyms.—*Alcoholismus Chronicus* (Huss). *Chronic Alcoholism. Paralysie Alcoolique* (Fr.).

Definition.—Intoxication itself, although truly a transient madness, must be excepted from Alcoholic Insanity. Delirium Tremens which has various synonyms, *mania a potu, phrenitis potatorum, folie des ivrognes*, and to which we shall not make further reference, may be regarded as the acute and temporary form of mental derangement caused by intemperance—an *intoxication alcoolique aiguë.*

We have already pointed out (p. 294) the confusion often created by not distinguishing clearly between the irresistible craving for stimulants and the mental disorder which results from excessive indulgence in drink.

Of the morbid effects produced upon the mental functions we have left those chronic results which are manifested in what is now understood as Alcoholic Insanity.

Huss defined Chronic Alcoholism as the "collective symptoms of a disordered condition of the mental, motor, and sensory functions of the nervous system, these symptoms assuming a chronic form, and without their being immediately connected with any of those modifications of the central or peripheral portions of the nervous system which may be detected during life, or discovered after death by ocular inspection, such symptoms, however, affecting individuals who have persisted for a considerable time in the abuse of alcoholic liquors."

Symptoms.—"Closely allied to Delirium Tremens and Dipsomania" observes Skae, "we have a peculiar form of Chronic Insanity brought on by Alcoholisation, which it would be easy to delineate, one of the most constant and persistent symptoms of which are hallucinations of the organ of hearing, which are its almost invariable accompaniment, and not unfrequently Hallucinations of the sense of touch, leading to a belief in mesmeric, electric, and other unseen agencies." (Op. cit., p. 13.)

Short of decided Insanity, every one knows the injurious effects caused by frequent intoxication—the trembling limbs, the feebleness of mind, the blunted moral sensibilities, and yet the tendency to weep on the most trivial occasions. Self-respect is gone, and

there is a sort of cowardice very typical in its character of indulgence in alcohol. Trembling of the hands also, especially in the morning, is often an early symptom. The ground is gradually but surely prepared for future attacks of Insanity; nay, in all probability the soil was, by reason of hereditary predisposition, only too susceptible to the exciting causes of mental disease.

The chronic form of Alcoholic Insanity is, in fact, an exaggeration of this condition, and may then assume a decided form of Melancholia with Hallucinations, or Mania. From this the patient may recover, or gradually pass into a state of Chronic Mania with delusions or Dementia.

Of 350 patients admitted during two years at Charenton their Insanity was attributed to drink in 102 instances (intemperance being in some instances, no doubt, a symptom as well as a cause), 15 were in a state of Delirium Tremens, 7 Acute Mania, 34 General Paralysis or closely resembling it (three of these were preceded by Congestive Mania), 11 Dementia, 24 Melancholia, 3 Circular Insanity, 2 a mental condition resembling *Stupidité*, 2 Epilepsy. Of these 102 cases of Insanity in which the symptoms of alcoholism were observed, 12 were cases which presented a form of lypemania which M. Thomeuf regards as specially characteristic of alcoholic intoxication. Among the female patients he has met with two cases. These, with a case admitted into the *Maison Impériale de Santé*, amount to 15, which he considers present the following group of symptoms:—Obstinate hallucinations of a distinctive character, for they have this in common, the production of a painful moral impression and often even profound terror; never are they of a happy kind. In the 15 cases referred to, hallucinations of hearing were present in twelve, of sight in eleven, of touch twice, and of taste once. These affections of the senses were followed by confusion of thought, and perversion of the feelings, suicidal tendencies, tremors of the facial muscles, the tongue, and the hands, and anæsthesia of the extremities.

The following case is a good illustration of simple Alcoholic Insanity:

A—, a male, æt. 26, came under care in 1857. Intelligent, in good physical health. One of his sisters had been insane for a short time after weaning her child. No other proof of hereditary disease; no previous attack. For a long time, has been given to intemperance; formerly drank absinthe and white wine.

For six months, he has five or six times had attacks of Melancholia. During a

voyage which he recently made, his wife received from him a very cold letter, quite contrary to his custom. A few days after his return, he complained of having been scoffed at by his friends at a table d'hôte.

Now he has vivid hallucinations of sight and hearing. He believes he is pursued by some one for having committed an assault. During the day after his admission he did nothing but bewail his condition; said he was mad, &c. During the night he leaned with his elbow for three hours on the bars of his window, talking with the telegraph. Here are some fragments of this colloquy:—"Q. Am I mad? A. Yes. Q. Am I a furious or a calm madman? A. You're a calm one. Q. Ought I to go to an asylum? A. Yes. Q. To the Bicêtre, Charenton, or the *maison* Dubois? A. You shall go to the Bicêtre."

A formidable discussion then went on—"I shan't go! But you shall!" &c. Next day he asserts that his wife has been unfaithful; he is full of hallucinations. For five days has only had a few hours' repose; he is busied with his affairs; he hasn't got enough—not enough for his keep.

The police of the town are a prominent feature of his hallucinations—"See, they come to look for me." It is a curious circumstance that he hears voices when he lies down, on the side on which his head rests. When addressed he refuses to reply. He demands an interview with his wife, who he asserts is shut up in the establishment. When told she is not, he affirms she is dead.

Three weeks after he came under care, he was well, with the exception of a slight degree of Melancholy, and at the request of his family was discharged. (Dr. Legrand du Saulle, in the 'Annales,' 1859.)

In other cases, the loss of motor power and the tremor of the tongue and other muscles are as marked as the psychical disorder, and justify the term *Paralysie alcoolique*.

In the section on General Paresis we have shown how frequently it appears to originate in intemperance, and although there is always the difficulty of deciding between early symptoms and causes, we do not doubt that some cases of General Paresis are truly examples of Alcoholic Insanity. However, it is desirable to keep them in a class by themselves and not include them under Alcoholic Insanity, in order that we may retain this distinctive term for a group of symptoms already described, whether complicated with decidedly paralytic symptoms (embarrassed speech, muscular tremors, and loss of power) or not.*

* See the Chapter on Ætiology for statistics in regard to the proportion of cases of Insanity caused by different kinds of stimulants. Also 'Alcoholismus Chronicus,' Dr. Magnus Huss, Stockholm, 1852. 'Recherches sur la Folie paralytique,' p. 106 ("Paralysies alcooliques"), Falret, 1852. 'Essai Clinique sur l'Alcoolisme,' M. Thomeuf, 1859. 'Annales Méd. Psych.,' Octobre, 1859, M. Legrand du Saulle. 'On Chronic Alcoholic Intoxication,' by Dr. Marcet, 1860. 'De l'abus des Boissons alcooliques,' par Dr. Bergeret. "Le Démon Alcool,' par Dr. Prosper Despine, 1871. 'De l'Alcoolisme au point du vue de l'Aliénation Mentale," M. Dagonet ('Annales,' Mars, 1873).

Pellagrous Insanity.

Synonyms.—*Mania pellagria ; Pazzia pellagrosa* (Ital.). *Pellagrose Insanity.*

The term is said to be derived from πελλα, *skin*, and ἄγρα, *a seizure*. The first descriptions of pellagra appear about the year 1770. In 1784 a hospital was established near Milan for those suffering from it, the disorder having become so prevalent.

It appears from a statistical table prepared by Ballardini, quoted by Dr. Peacock, that the total number of pellagrose in the Milanese provinces in 1856 was 37,628 or 16·3 per 1000 of the population. Of these, 3390 or 9 per cent. were insane. It is generally admitted to be hereditary. Dr. Peacock quotes Calderini's statement that of 184 families comprising 1319 persons inheriting predisposition to the disease, 648 were affected and 671 healthy, "and it is supposed the mother more readily conveys it than the father" ("Notes on Pellagra," 'Brit. and For. Medico-Chirurgical Review,' Jan., 1863).

Definition.—A mental disorder caused by an organic poison, which also affects the skin, the sensorial and motor functions, and general nutrition, in a remarkable manner.

Symptoms.—As this disease is not met with in our own country, the opportunities of seeing it are necessarily limited. We have, however, examined a considerable number of cases in Italy, especially in the asylum at Verona. The patients seen by the writer were in an advanced stage of the disease, and were all more or less emaciated, sallow, anæmic, and presenting a miserably dry, wrinkled skin. They were obtuse and inert, their mental state being that of Dementia, quiet Chronic Mania, or, perhaps, in some instances, Chronic Melancholia. Not one was in an acute maniacal condition. At the asylum of San Servolo, Venice, which we also visited, were many pellagrose patients. We found that at the commencement of 1862 there were 82 cases of Pellagrous Insanity in the establishment, and during the three years 1862-63-64, 150 were admitted, 114 were discharged, 37 died, and 80 remained under care January, 1865. During this period, 663 cases of Insanity of all forms were admitted, therefore about 23 per cent. were examples of Pellagrous Insanity. Of these 150, 54 exhibited the symptoms of Mania, 49 of Melan-

cholia, 46 of Dementia, and 1 of Monomania, while at death 14 were Melancholiacs, 12 were Dements, and 11 were Maniacs. In not less than 63 cases, the parents laboured under the same disease. Eight of these 63 did not live, like their parents, in the country but were in service or artizans in the city, and better off than the peasants. During eight years, 561 cases were treated.

Dr. Salerio, the Medical Director, in describing the cases admitted, observes in his Report that the aspect of the patients is very characteristic. "They are generally frightened, pusillanimous, think they are persecuted, lost, possessed with the devil, are always suspicious and yet affectionate. They refuse food and medicine, or take them with hesitation, especially in the early stage, because they are distrustful and afraid of being deceived. They have almost always a beseeching look; they frequently sigh, and dwell upon their family and their country, and many have exalted religious notions. Their tongue is usually tremulous, generally smooth, but sometimes with the papillæ raised. They walk with difficulty, saying that they feel their legs 'rotte' (feeble), and that they have no strength. They complain of feeling stupid, weak sighted, and of having a sense of weight on the top of the head, and of wandering pains. They are subject to frequent gastric disturbance and troublesome diarrhœa. When he is actually maniacal the pellagrose patient, talking violently, with fierce eyes, and furious expression, shouts and destroys everything within his reach. His pulse is frequent and his skin hot. Even in this state he generally has delusions of persecution and conspiracy. On admission their friends usually state that they have attempted suicide by drowning (which some regard as characteristic of this disorder), but not homicide. It may be so, but in truth, of the large number of cases admitted in three years at San Servolo, barely seven have attempted to destroy themselves, and when asked the reason, they replied that they did not know what they were doing, but were suffering from a sense of misery which seized and utterly confused them, and a weight which oppressed their breathing. Perhaps these were only automatic acts. Of attempts at suicide by drowning, we have no instances, although our institution is surrounded by water and the patients have all possible liberty. Indeed, those who have attempted suicide have done so by suspension, beating their heads against the wall, blows on their chest, and refusal to take food. 'Sooner

die than eat,' say such. When, however, these sufferers become affectionate, they are good, docile, and obedient. Their only complaint is that they are away from their friends. Frequently have we been induced to allow them to leave the asylum, although not fully recovered, in order that they might not die of grief. Under such circumstances they become hilarious, scarcely able to hope that they will so soon return to the bosom of their family.

"If we have had the pleasure of seeing many patients discharged completely recovered—and let people say what they will, it seems to me this is strictly true, for such patients become well nourished, robust, quite sane, in good spirits, contented and able to employ themselves—why should we not, although in the course of two or three years, they will, if subjected to the same causes, relapse—Why should we not call them cured? Too many of them will, no doubt, return, and in a worse state than before, since the cause acts more readily on those who have been once affected, and will lapse into Dementia, Paralysis, or Tubercular Disease; still, in the mean time, much has been achieved."

Lombroso, the most recent authority on this disease says:

It seems to me that one characteristic of many suffering from pellagra, even if sane, and still more if insane, is a greater moral impressionability. A slight insult, the threatening of some trivial danger, completely carries them away, although they, perhaps, appeared before to be of sound mind. For example, a woman believes herself to be lost because she has missed mass; another person is in despair and goes mad, because he has lent a pistol to a friend, who will not return it; a woman hears her companions laughing at her dress, and becomes insane from grief; another, merely because her husband, a fisherman, is a few minutes late, breaks out into violent Mania.

Perversion of the affections is rare; on the contrary, I have more frequently noted their exaggeration, so that our patients resemble those suffering from General Paralysis, who are almost always very affectionate towards their relations. Many of them complain of loss of memory and of mental weakness, which ceases when they are in bed or lying down. In a few cases, on the other hand, I have observed that the disease itself (as is occasionally also remarked in ordinary Insanity) quickens the mental faculties; this reminds me that several of the persons upon whom I experimented with the damaged Indian corn, spoke of their increased clearness of mind.

As a rule, even when the Insanity of Pellagra assumes a type, it approaches rather that of Chronic Mania and Dementia, than of Monomania; for instance, one of these patients finds it necessary to give one a card every moment, without knowing why; they will try to conceal their names from one, or say that they are engineers, or possess landed property, though, perhaps, confessing at the same time that they are drovers, or asking for an alms." ('Jour. of Mental Science,' 1872, p. 582.)

The translator of the foregoing, Dr. Gasquet, adds the following additional abstract of Lombroso's description of Pellagrous Insanity :—" A real or apparent stupidity, an obstinate mutism, is tolerably common, which is ingeniously termed by Lombroso 'a psychical catalepsy,' seeing that the various faculties are there, and that some accident will frequently rouse such persons from their lethargy. Occasionally the opposite extreme of gaiety and great activity may be observed; or there may be an almost intolerable repetition of some phrase, cry, or chant. Mistaken use of words and aphasia have not been noted; there is occasionally some uncertainty of speech. Many patients complain of hallucinations, evidently connected with morbid visceral states. 'They are on fire; they have dogs in their stomach; they see water everywhere; they hear voices; they are dead.' But, as a rule, their Insanity is of 'a misty, ill-defined, contradictory character, like that produced by old age or by anæmia, and differing in this point from General Paralysis.' Refusal of food is a particularly common symptom, and is traceable to the various causes with which we are all familiar: disordered state of the alimentary canal, the influence of real delusions, or mere obstinacy. The most characteristic symptoms are those grouped by Italian physicians under the term 'hydromania.' In one set of cases, water is sought and desired because of the relief which a cold bath gives to the general feeling of heat and scalding. In other patients the love of water seems to be dependent upon the great pleasure which is derived from seeing its shining surface; something analogous is to be observed in young children and in demented patients. Thus, Dr. Lombroso quotes one patient saying to him, 'Nothing in the world pleases me so much as a small brook or pond; when I am walking, and see any water, I cannot take my eyes off it as long as it is in sight, and at night I dream of seeing water.' Such patients are often equally fond of the sight of fire, and will burn furniture or other things in order to gratify themselves with a blaze. Sometimes, on the other hand, there is a profound dislike to the sight or touch of water. . . . The intermittence of the mental symptoms of pellagra is very remarkable. Acute phenomena are very rare in the colder months of the year, and become much more numerous in March, and continue to increase till August, when they diminish in frequency till October, when there is again a slight increase. Two sets of climactic influences are here at work; rapid barometrical changes, which seem particularly active in autumn, and mere elevation of temperature which is the cause of increase in spring."

Ætiology.—When Dr. Peacock wrote the article already referred to in 1863, after alluding to the various alleged causes of pellagra, the miserably indigent condition of the peasantry (hence one term for the disease, *Mal de misère*),the malarious character of the country where pellagra abounds, exposure to the rays of the sun as maintained by M. Jolly, peculiarities of soil and climate, the character of the drinking water, the construction of the dwellings, and the use of diseased maize or Indian corn as food, he concluded that none of these causes were sufficient to explain the production of the disease except the last—the maize undergoing some change "either during growth or after being harvested." Ballardini and Costallat are quoted as referring the disease to changes in the grain from imperfect drying after being gathered; a parasitic

growth being first detected by Cessati, who called it *sporisorium maydis*. Ballardini's hypothesis was not adopted by Courty, Landouzy, &c., and in this position the question stood when we visited Italy in 1865. Subsequently, however, Professor Lombroso investigated the subject, and he has proved experimentally that when maize is placed in damp granaries, it develops a parasitic growth, *penicillium glaucum*, and that such maize will produce, when taken, the symptoms of pellagra. (This is not to be confounded with the *smut* (*uredo*) to which maize during growth is subject.)

He administered a tincture of this diseased maize to twelve persons in good health, and with ten of these, symptoms identical with those of pellagra were induced. He gave it in the form of powder to six others, and they manifested similar symptoms. He states that these effects do not take place, if the diseased maize from the granaries is boiled in lime water and then baked in an oven. It should be added that Dr. Lombroso does not attribute the disease to the morbid action of the parasite itself so much as the damp corn of which it is a product, and which is sufficient to act as a slow poison upon the system.

That we have here one and by far the most fruitful cause of pellagra appears to be proved beyond a doubt. Other causes may produce it. Thus the fact remains that the cutaneous affection which is characteristic of pellagra, is to be seen in the spring and autumn in several of the French Asylums where no special diet is made use of, and where the patients have no maize corn. It should be added that Billod denies the existence of any such disease as pellagra in a strict sense, *i.e.* as a distinct affection characterised by an eruption on the skin, and the occurrence of gastro-intestinal, and cerebro-spinal affections. The latter he supposes to be entirely distinct, and the eruption to be the effect of exposure to the sun in persons in a cachectic state, in association with Insanity or not. Dr. Monti in his Memoir, 'De l'état actuel des aliénés dans la province d'Aseoli Piceno,' states that of 296 patients admitted into the Asylum at Fermo which he superintended for ten years (1861-71) only three were pellagrous, although the inhabitants of the province feed almost exclusively on maize. They are provided, however, with good dwellings. It may be also that the maize is not housed in damp warehouses calculated to promote fermentation.

Prognosis.—Unfavorable. It is stated, however, that not only pellagra but even Pellagrous Insanity has been cured after lasting some years (the chief remedy employed being arsenic).

Statistics show that in a majority of cases the disease lasts about three years, but that in many instances the period is very much longer, and may be even fifty years.

The reader will obtain the most recent information from Lombroso's work and Dr. Monti's Memoir, and an excellent *résumé* of what was known on the nature of Pellagra up to 1863, in the article in the 'British and Foreign Medico-Chirurgical Review,' Jan., 1863, by Dr. Peacock, 'Notes on Hospitals in Northern Italy and on Pellagra.' See also:

'Recueil Périodique d'Obs. de Méd. de Chir. et de Ph.,' tom. ii, p. 336, containing observations of M. Thierri on a disease observed by him in Spain; Paris, 1775. 'De la Folie pellagreuse,' B. de Boismont, 1834. Esquirol, 'Malad. Ment.,' 1838, vol. i, p. 593. 'De la Pellagra,' par Theophile Roussel, Paris, 1845. 'Dict. d'Hygiène publique,' M. Tardieu, tom. iii, Paris, 1862. 'Traité de la Pellagre,' 2me édit., 1870, Billod. 'Studi clinici ed esperimentali sulla Natura, Causa, e Terapeia della Pellagra,' C. Lombroso, Milano, 1870, and selections from it in 'Jour. of Mental Science,' Jan., 1872.

Cretinism.

See Chapter III, section i, p. 176. We may add to the statements there made the notes of a conversation respecting the nature of Cretinism with Dr. Guggenbuhl at the Abendberg, in 1862, which were not at hand when the above-mentioned section passed through the press.

He said that the causes of Cretinism and Goitre are distinct; that the most frequent cause of Goitre is water derived from calcareous rock.* When hard water is drunk without any

* See M'Clelland's table, p. 184, which exhibits a proportion of one goitrous person to three of the population in Bengal, living on calcareous or limestone rock. He points out that Alpine limestone does not exist to any great extent in the mountains of Ireland, Scotland, or Wales, where goitre is unknown; whereas it forms the characteristic feature of the county which has rendered the "Derbyshire neck" proverbial, and of the Alps, where goitre prevails. The deleterious influence of calcareous rock upon the air as well as the water is insisted upon by this writer;

injurious effect, there is, he believes, some iodine in it which neutralises its otherwise deleterious nature. Further, he stated that Goitre is very rare at birth.

As to Cretinism, its causes, he maintained, are very complex; one accounts for its presence in one locality, another produces it in another. The toxic influence of the malaria from marshy districts is the most frequently ascertained cause. This is proved sometimes by the happy effect of drainage. M. Grange's theory as to drinking water (see p. 183) has a very partial application. He now admits this himself. To M. Morel's theory of the geological constitution of the soil, Dr. Guggenbuhl only attached importance so far as that any soil which prevents the rain passing through or off, may conduce to Cretinism by causing malaria. Thus a clayey soil is very bad on account of its not allowing the water to find a thorough exit. A chalk soil is good, inasmuch as it allows of percolation; a granite soil will usually permit the water's escape by some means. But he mentioned, as an exception, a district which although granitic, was unfavorable to health and produced Cretinism, the explanation being that the surface of the country was hollowed out, and the water, unable to escape, accumulated. Again, in a chalk district where Cretinism occurs in some families, other causes (especially close intermarriages) neutralised the effects of a soil which was not favorable to malaria. We may add that at Martigny, Dr. Lugony maintained that the grand cause of Cretinism was a poisonous stagnation of air—the absence of a free current of wind—being generally accompanied by a marshy valley, rendered hot by the sun, although there might be late sunrise and early sunset. In the Rhine Valley he said there was a great deal of ague and putrid fever which often proved fatal in a few hours; also a considerable amount of tubercular disease, though at Fuly, where Cretinism is frequent, there is not much. Fuly has long been celebrated for its cretins and goitres, but (as in almost all places) the number diminishes, the cause of this being, in his opinion, the filling up of some marshy districts, and the somewhat improved

carbonic acid gas "being extricated from the limestone by atmospheric heat, assisted by such other causes as promote the decomposition of the rock." Dr. Darnis has recently pointed out the fact that there are hardly any cretins, but a great many persons affected with goitre, in Espinas and Verfeil, a mountainous region (in the Cevennes) of calcareous formation.

condition of the people themselves. In Martigny, Cretinism is observed in narrow stagnant streets, but not in good houses well situated. The cattle in cretinous districts, though of a small breed, are very fine, but their feet are often diseased. The dogs are healthy, but the cats often become emaciated and die skeletons. On the opposite side of the Rhine to Fuly lies the Village of Charral, with a north aspect, free from Cretinism or Goitre, and this immunity is attributable to there being a good current of air there and less exposure to the sun.

A chemist at Martigny, M. Taramarcaz, attributed Cretinism to the poisonous atmosphere. It must be, he observed, that the enormous quantity of hydro-carbon gas which is continually disengaged from our marshy plains, especially during the heat of the summer, should act prejudicially upon the inhabitants. To this cause alone he believed Goitre and Cretinism to be due; but that the former is also caused by the water, we cannot doubt.

At Sion, a medical man informed us that the removal of a wall which surrounded the town and rendered the air very close and stagnant, had had a striking effect in diminishing the amount of Cretinism. At the Hospital for the Poor, we saw seven or eight cretins—adults—all having very much the same type—dwarfs—broad cheeked, head contracted at the temples in a peculiar way, which the doctor considered characteristic of one form of Cretinism—the skin dark—the expression grotesque, quite at ease, amused, and indicating more intelligence than is often the case. One of them read out of a prayer book. Their aspect was that of persons prematurely old and stereotyped.

On the whole, although, as we have said (p. 183), no hypothesis can be framed to which apparent exceptions do not present themselves, we believe the toxic origin of Cretinism is sufficiently established, the poison usually consisting of a humid and vitiated atmosphere from marsh malaria.*

* See, in addition to works referred to, Grange, "Mém. communiqúe à l'Académie des Sc.," Oct., 1848 ('Ann. d'Hygiéne pub.,' 1849, t. xli, p. 218); and "Rapport sur les causes du Goitre et du Crétinisme" ('Archiv. des Missions Scient.,' 1850). 'Die Cretinen-Heilanstalt auf dem Abendberg in der Schweiz, Cant. Bern., von Dr. Guggenbühl,' 1853. (Dr. Guggenbühl's first work was published in 1838, but this is the most important.) Chatin, "Un fait dans la question du Goitre et du Crétinisme," 1853; "Sur les eaux potables" ('Bulletin de l'Académie Impériale de Méd.,' 1863). 'Annales,' 1855, 56, 57, 59, 65, 67, 68. Parchappe, 'Rapport à la Commission du Goitre et du Crétinisme,' 1862. Guy et Dagand, 'Du Goitre et du Crétinisme dans

Intestinal, Vesical, and Hepatic Insanity.

The influence of abdominal affections upon the mind has been universally admitted, especially those of the colon and liver. So far as we know, however, Schr. v. d. Kolk was the first who attempted anything like a definite delineation of a special form of Insanity in connection therewith, under the designation "Sympathetic Mania proceeding from the Colon." According to him "it is characterised by a peculiar depression of spirits, by anguish of mind, and by the patient's self-accusation of wickedness and baseness, either in the present or in some previous time. The disease has a very slow course, and generally the anguish of mind and the self-accusings have already existed some time before the physician is consulted. At first the patient strives against his gloomy thoughts, and in presence of strangers he behaves quite like a sane person, so that one does not perceive or suspect anything unusual about him. This does not happen in Idiopathic Insanity. Moreover, the patient has generally suffered previously from sluggish bowels, sometimes even for years; often the bowels are only open once in several days, without this having caused him any particular annoyance. In addition, not rarely do hæmorrhoidal complaints appear, namely, tumours and bleeding at the anus, or, perhaps, also a violent itching in this part. These hæmorrhoidal sufferings, however, especially the loss of blood, have usually diminished or even quite ceased before the outbreak of Melancholy.

"The melancholy usually increases slowly if the mournful frame of mind is not more strongly developed by special circumstances. The patient seeks to be alone and likes to conceal himself in a dark corner. He has also an extremely unpleasant feeling in the præcordia, which not unfrequently extends towards the left side, especially in women, and in them hysterical symptoms are sometimes added, especially the so-called globus hystericus. Further, there is present an indescribable feeling of distress which does not,

le Haute-Savoie,' 1864. Chabrand, 'Du Goitre et du Crét. endém.,' 1864. 'Relazione de la Commis. por lo Stud. del Cret. in Lombardia,' Milano, 1864. Auzony, 'Les Crétins et les Cagots des Pyrenées" ('Annales,' 1867). Lunier, "De l'Alienation mentale et du Crétinisme en Suisse" (Idem, 1867-8). Dr. Darnis, 'Etude sur le Goitre et la Crétinisme dans le Tarn-et-Garonne,' 1871.

in the least, lose ground, and which is generally interpreted as qualms of conscience." We abbreviate the rest of his description, which occupies some pages :

"Now, as in such a depressed tone of spirits, a feeling of pressure and heaviness in the region of the transverse colon arises, so conversely do affections of this intestine react on the spirits, and induce that feeling of sadness, of whose origin in a diseased condition the patient cannot be convinced. The self-accusations show, of course, individual differences, but they generally run in this style, that the patients, like wicked abominable men, have rendered their relations and friends unhappy, and have plunged them into poverty. They accuse themselves of want of affection towards relations, wives, or husbands, or children; they believe, perhaps, that their nearest relations are dead, and that those who assume to be them are only strange intruders, who have possessed themselves of the clothes and property of their real relations; they consider themselves the cause of accidentally prevalent diseases, for through their poisonous breath or other noxious qualities, as they think, all who come near them must die or wither away; through their own fault they have fallen into the greatest poverty, and they can consume nothing because they are not able to pay for it, they are afraid of being brought to justice, and of being subjected to the most dreadful tortures; were they formerly as artists or musicians animated by ambition, they believe that they have neglected their vocation, so that they are now surpassed by others, and have fallen under contempt.

The ground or cause of their qualms of conscience, such melancholiacs find often in some very insignificant event, but which cannot again be undone. Accordingly, their guilt cannot be eradicated, restoration is not to be thought of, and it is a futile trouble to attempt by reasoning, during the violence of the disease, to bring the poor sufferers to a better judgment. All this impels the unfortunates to suicide. The appetite is sometimes much increased, and the patients have constant hunger. To the physician who tries to persuade them that they are ill, they adduce this good appetite as a proof of their perfect health. On that account they also generally oppose taking medicine, through which medical treatment in their own houses becomes very difficult, if not absolutely impossible. But in other cases the desire for food is entirely absent, and that for the most part is an indication that masses have accumulated in the intestines, and must be removed. This is often accompanied by bad smelling breath. In cases of this kind, the patients believe that they require no food, or that they do not deserve any food, or they seek in abstaining from food a means to put and end to their life. These phenomena alternate according to age and sex. Thus, men are mostly taciturn, shy, and reserved; women, on the contrary, are accustomed to complain constantly with great excitement. The circulation is generally at the same time irregular; the hands and feet are usually cool, sometimes of a bluish color; the radial pulse is small and contracted; the face is frequently reddened; the nose bluish-red and swollen. At the beginning, and if the disease advances actively, the patients complain of a sensation of lightness, or even of pressure in the region of the vertex, or they have noises in the ears, or on shutting the eyes and in the dark, they see flashes of light. The carotids pulsate strongly, and in this respect behave quite differently from the radials."

After referring to inability to read or pursue any work requiring attention or memory; sleeplessness; self-tormenting

accusations early in the morning; spinal irritation, marked by increased pain in the head on the upper part of the neck being pressed; urine dark and depositing a sediment, he adds—

"All these symptoms are explained by the affection of the colon, and its reflex influence on the upper part of the spinal cord, on the brain, and even on the kidneys. In great præcordial distress, the transverse colon is often enlarged and loaded with fæcal matter. The bowels are then generally sluggish, and the feeling of uneasiness increases with retention of the fæces. Less frequently, the patients complain of an uncomfortable feeling in the right side, and in the region of the liver." ('The Pathology and Therapeutics of Mental Diseases,' p. 128-34.)

Under the head of "Mania proceeding from the Urinary Apparatus," Schr. v. d. Kolk describes the following case, which we give as an illustration of Vesical Insanity.

"A merchant from Liverpool, who had been for some days very much irritated, and had drunk whisky, got a catarrh of the bladder with painful and difficult micturition; the urine was quite thick, and was only evacuated drop by drop. The treatment was directed against enlargement of the prostate. The catheter caused violent pain, and increased difficulty in passing urine, so that off and on complete anuria occurred.

The mental symptoms which succeeded are stated to have been as follows:—Violent nervous symptoms, hallucinations of hearing, and subsequently of seeing also.

There were violent pains down to the soles of the feet. The patient had large doses of opium, and clysters; and an ointment, with Ext. Belladonnæ, was rubbed into the perineal region. Later, he came under Brodie's treatment who ordered him tartar emetic with cicuta, and afterwards dilute nitric acid. As his condition only got worse, the patient came to Holland and was under my treatment. On his reception into the institution, we first of all sought by gentle persuasion to quiet the excitement of the patient. On account of sluggishness of the bowels castor oil was ordered, and then decoction of althæa with lensa and Ext. Graminis. The urine was quite thick, and contained much mucus, and on account of the affection of the bladder, the patient had lime water with extract of cicuta, as well as intermediately a decoction of linseed. Under this treatment the symptoms of catarrh of the bladder rapidly diminished, the urine was clearer, and more easily passed. Therewith the patient awoke as out of a dream; he was conscious that his former ideas had been erroneous, and he appeared to be quite well. After a short drive he had an attack of orchitis, and he again became somewhat confused. In the further course of this case, a slight aggravation of the vesical catarrh occurred, *and immediately his hallucinations returned.* But all the symptoms quickly disappeared through the continued use of Aqua Calcis, and keeping the bowels regular; in two months the man left the institution quite cured, that is to say, free from all urinary complaints, and free from all intellectual confusion. A year after his discharge, I heard that he remained quite well." ('The Pathology and Therapeutics of Mental Diseases,' p. 148.)

In the 'Report of the Royal Edinburgh Asylum,' for 1871, two cases are recorded of what may be called Renal Insanity. The

remarkable similarity of the symptoms in these patients, one of whom was a female and the other a male, and in whom "Insanity was coexistent with the waxy form of Bright's disease of the kidney," is particularly mentioned by Dr. Wright:

"In the case of the male patient Insanity had existed for years, and he indicated a predisposition to its occurrence. At the commencement of the disorder the symptoms were of the sthenic type, and consisted of maniacal excitement and delusions; homicidal impulses were also displayed by him; bodily health was then reported as good. After being resident in the Asylum for some years, the symptoms of this man's insanity gradually changed; they assumed the asthenic type. He became very querulous and extremely selfish; his powers of self-control were much weakened, and he would cry like a child when recounting his troubles, real or imaginary. This change of disposition commenced, and advanced *pari passu*, with the advent and progress of the symptoms of the kidney disease. His micturition became very frequent, urine was passed in large quantities, and of low specific gravity, and his complexion became colorless, and of the tallowy hue frequently noticed as co-existent with the waxy forms of Bright's disease.

"In the case of the female, Insanity came on with the invasion of the kidney disease, or rather with the general constitutional depression which preceded the appearance of more general symptoms. In this case, and in that portion of the former which corresponds (*i. e.* after the appearance of Bright's disease), the mental symptoms and general appearance of the two patients were almost identical: querulous, discontented, constantly moaning and weeping over their unhappiness; no kindness consoled, no attention soothed them."

In connection with the alleged relation between disease of the liver and the production of any particular mental symptoms of Hepatic Insanity, there can be no doubt that Melancholia is the form of mental disorder which we most frequently witness in combination with hepatic derangement of a chronic character. More accurate observations are, however, required on this subject.

In the 'Annales Médico-Psychologiques,' for Sept. 1872, p. 201, is a paper by M. Lunier, on the relation between Icterus and Insanity, with cases showing a certain degree of relationship. Its chief object, however, is to illustrate, not the influence of hepatic affections in causing, but in curing mental disease, with which we are not now concerned. Griesinger observes that Icterus "appears to have a great influence on the disposition (Stimmung) and we sometimes see acute *icterus gravis* accompanied by violent delirium without any cerebral change. As regards the influence of icteric states on the production of Chronic Insanity no definite observations are recorded." (Die Pathologie u. Therapie &c., p. 199.)

In four of Dr. Skae's 'Annual Reports,' within our reach, 1869-70-71-72, no such case is entered as being admitted.

Post-Febrile Insanity,

Nasse who has paid much attention to mental affections originating in fever, classifies them according as they are the immediate result of the fever itself, or constitute a prolongation of the delirium when the fever has subsided, or arise during convalescence. The last class is more especially intended by the term "Post-Febrile Insanity." The time during which it is gradually gaining force may be long or short; irritability, as in the incubation of Insanity generally, is a frequent sign of the oncoming malady, and a change of manner in various ways which excites the surprise of the friends, and perhaps some degree of childishness. Out of 2000 patients admitted during six years at Siegburg, 43 cases, the certain result of typhoid fever, were admitted. Many of these cases are examples of Melancholia and Mania due to anæmia, and rapidly recovered. Then there are cases presenting the ordinary features of delusion about persecution, with hallucinations of hearing and (not so frequently) of sight, some cases passing into Dementia, but not complicated with Paralysis.

Sydenham recognised Insanity as among the sequelæ of *intermittent* fevers. He says, "one sort of symptom and that an important one, it may be proper to mention in this place; it yields neither to purges nor evacuants of any kind, least of all to blood letting. In defiance of these, it even takes strength from their administration. It is a form of Mania peculiar, and *sui generis*. It occasionally follows long agues, especially if they be quartan; it stands beyond the reach of all the usual remedies. From the exhibition of strong evacuants, it degenerates into Fatuity and ends only with the life of the patient. I have often wondered that no notice has been taken by authors of this symptom, as I have observed it not unfrequently. The other forms of madness are mostly cured by means of copious evacuation, bloodletting and catharsis. This can bear none of them (Sydenham's works, Syd. Soc. Trans., vol ii, p. 93).

Pinel says, "A man of letters, accustomed to excess at table, and lately recovered from an attack of tertian fever had towards autumn all the horrible symptoms of a suicidal tendency."

Insanity as the consequence of intermittent fever has been

treated of by Baillarger, and in publishing an article upon the subject thirty years ago, he stated that his only object was to provoke observations and researches into the study of Insanity from an ætiological standpoint. He gives two cases which, as he states, are in accordance with the observations of Sydenham. To such cases it was objected that if they stood in any definite relationship to the succeeding mental disease, a great many more instances of Insanity should occur in ague districts than is actually the case. Further, these two patients had had previous attacks of Insanity. He admitted that further enquiry was necessary, but the fact remained that two physicians, Sydenham and also Sebastian, had met with many instances and were astonished at the silence of other medical men. M. Baillarger added a third case, a *curé* who at twenty-eight years of age had a quartan fever, which was followed by an attack of Insanity. Intermittent fevers, he observes, predispose to Insanity in two ways, first by acting like all nervous affections (ague being more allied to these than anything else), and secondly by producing anæmia.

In their statistics of the Bicêtre, MM. Aubanel and Thore also report a case; other cases are cited by Baillarger from Payen, Falret, and Villermay, Trusen, Nepple, and Moreau de Tours. (See 'Annales' 1843, vol. ii, p. 372.) Hoffmann has published a fatal case in the Günsburg Zeitschrift IV.*

Rheumatic and Choreic Insanity. Gouty Insanity.

Griesinger directed attention to the Insanity which occasionally (he says "very rarely") arises out of acute rheumatism. After disposing of cases of Acute Delirium and Maniacal Excitement, he observes "Sometimes, under the influence of accessory causes, we see prolonged Melancholia with stupor, Mania, mental weakness, &c., occur; in short, the development of actual mental disease in various protracted forms, sometimes associated with

* On Insanity consequent upon fever, see "Remarques sur le délire consécutif aux fièvres typhoïdes," par M. Sauvet, 'Annales,' 1845, tom. ii; "Monomanie ambitieuse survenue dans la périod de déclin d'une fièvre typhoide, symptômes peu graves," par M. Leudet, ibid., 1850, tom. ii; "Recherches sur la fièvre typhoide," par M. Louis, tom. ii; "Die Pathologie und Therapie,' &c., von Griesinger," 1861. Case reported by Dr. Handfield Jones in the 'British Medical Journal,' January 12th, 1867.

chorea-like attacks. In these as in the acute cerebral forms of rheumatism, we frequently see the articular affection diminish, or even disappear, with the appearance of the mental disturbance, and occasionally there is an alternate improvement of the one, and aggravation of the other—sometimes even a decided retrogression of the latter on the appearance of the former" (Op. cit. Syd. Soc. Trans. p. 189).

Dr. Clouston has illustrated the character and course of Rheumatic Insanity, by some interesting cases in the 'Journal of Mental Science,' July, 1870. In these, chorea* was a marked symptom, but Dr. Clouston regards them as examples of Rheumatic Insanity, because they appear to have been caused by the rheumatic poison. He holds that the chorea and the mental disorder were alike effects of a common cause.

Of two cases reported by Dr. Clouston we give one (abbreviated) as an illustration:—

C. M—, female, married, æt. 24, admitted January 17th, 1870.

First attack.—No relation is insane or rheumatic. Reserved and quiet in health, but nervous. Predisposing causes of attack; ill usage by her husband, poverty, cold, hard work, nursing her child for fifteen months up to the attack. Exciting cause; an attack of rheumatism, not very acute, which lasted two months before she became insane. She had pains in the back of her neck, fingers, feet, &c., which were swelled, and some feverishness, but was not confined to bed. A week before admission she quite suddenly ceased to complain of the rheumatic pains, *and simultaneously with this relief she showed signs of mental derangement*, and violent chorea of head, arms, and legs commenced. Her first mental symptoms were a sort of absence of mind and inattention to what was passing around her, taking no notice of questions put to her, or of her children; also great excitement, tearing her clothes, &c. Quite sleepless, and the choreic movements had increased greatly in intensity.

On admission was much excited; memory almost gone; talks incoherently in monosyllables. The only question she can be got to answer is her name. Pupils contracted, equal; most violent choreic movements of face, head, arms, and legs; reflex action diminished; cannot walk; respiration 20 per minute; heart beating quickly but regularly; no cardiac murmur; pulse 108, strong; tongue clean and moist; won't take food; urine clear, acid, sp. gr. 1015; no albumen or deposits; temperature 100·4°.

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* It is unfortunate that this term is applied to such very different conditions as that here referred to and the Dancing Mania. As the Greek word (χορεια) signifies a dance, it would be more legitimate to restrict it to the latter; but it is hopeless to attempt this distinction now. The mental weakness and hysterical sensibility which frequently result from chorea, mark an affection of the mind which would now be understood by employing the term Choreic Insanity. Of Choreomania—the irresistible impulse to dance or jump—we shall speak at the close of this Chapter, under Epidemic Insanity.

Next day, choreic movements ceased in legs, which became now quite paralysed and nearly devoid of common sensibility; the reflex action in them was gone; bladder paralysed; can scarcely put out her tongue, and then with a jerk to one side; mental excitement abated, and speaks better; morning temp. 99·4°; evening ditto 99·6°; pulse 80.

She improved slowly during first week, and on the 23rd the note is made:—Takes food well, bowels regular, no sweating, mentally confused, depressed, no memory, suspicious, won't believe a word said to her, wonders where she is and how she came here; temp. 99·4°; pulse 108 in the morning, 100 in the evening. 24th.—Right knee slightly swollen; has hallucinations of sight and touch, saying that an old woman comes behind her and eats her food, and that one foot has been cut off; weeps and groans. 29th.—Has had a relapse; chorea worse in left arm; pain in arms and legs; morning temp. 100°, evening ditto 99°; pulse 116. February 5th.—Can now stand, but mentally the same; morning temp. 99·8°, evening 101°; pulse 120. She gradually improved, and her temperature fell until, on February 19th, she had only very slight chorea in hands, but complained of pains in the legs. Still confused, but memory returning; temp. 98·2°; pulse 94. With some exception she improved mentally and physically, and on April 2nd, it is reported that she believes now what she is told, and is almost rational; but her right hand is swollen, though quite painless, and the chorea rather worse. She could not sleep so well, the choreic movements troubling her at night (relieved by chloral). The swelling of the hand remained for a day or two longer and disappeared. Still the reflex action in foot was diminished, and she complained of intense heat of hands. 22nd.—No chorea now except when she smiles; she then grins and looks nervous in her movements; sleeps and eats well; industrious and rational; morning temp. 98·4°, evening 98°; morning pulse 96, evening 84. Her recollection of the coming on of the disease is imperfect, and she has no remembrance of the choreic movements beginning. Her mind must have been affected quite simultaneously with their appearance or before them. 26th.—During past week has gained five pounds in weight, and is now cheerful, rational, and says she feels perfectly well. Muscles under her control.

In comparing the foregoing and the other case Dr. Clouston observes:—

"The likeness of one to the other in nearly all their symptoms, in the coming on of the disease, in the choreic movements, in the paralysis of motor power, in the deadening of reflex action of the legs, in the hallucinations of sight, touch, and taste, in the want of memory, in the acute delirium with unconsciousness of anything going on around, succeeded by confusion of ideas, suspiciousness, and sluggishness of mind, the high temperature increased at night, the tendency to improvement in all the symptoms coincidently with the lowering of the temperature, and the slowness of the convalescence in both—all these things show that the same kind of lesion of the nervous system existed in both. And when this is taken along with the fact that in both patients, this train of symptoms suddenly appeared in the course of an attack of

rheumatism, that in both the symptoms of the articular rheumatism at once disappeared, while *the fever did not do so,* and that in the woman, when she was nearly well, rheumatic swelling of the knuckles of one hand appeared along with aggravated choreic movements, sleeplessness, and an increase of temperature, we have very strong data, not only to conclude that rheumatism was the cause of those symptoms, but that here we have true and typical examples of a Rheumatic Insanity, which must be classed by itself as a special form of mental disease—a true pathological entity."

As nearly allied to Rheumatic Insanity, we may briefly refer to Insanity connected with gout. We may speak of Gouty, Arthritic, or Podagric Insanity.

Sydenham thus comments upon the influence of gout upon the mind:—"The body is not the only sufferer, and the dependent condition of the patient is not his worst misfortune. The mind suffers with the body; and which suffers most it is hard to say. So much do the mind and reason lose energy, as energy is lost by the body, so susceptible and vacillating is the temper, such a trouble is the patient to others as well as to himself, that a fit of gout is a fit of bad temper. To fear, to anxiety, and to other passions, the gouty patient is the continual victim, whilst as the disease departs, the mind regains tranquillity. . . . . Melancholy, so-called, is pre-eminently the inseparable companion of gout. Hence those who are liable to it are so wont to tire and overwhelm the animal spirits by long and deep thought, that excessive exertion of this sort, even without the artificial aid of reading, makes the proper preservation of the body an impossibility, for which reason, as seems to me, gout rarely attacks fools. Those who choose may except the present writer" (The Works of Sydenham, Syd. Soc. Trans., vol. ii, pp. 128, 148).

In a curious paper in the 'Harleian Miscellany,' vol. ii, p. 45, entitled "The Honour of the Gout," by Philander Misaurus, dated 1699, the writer observes that the fact that "Gout is a perfect Deletory of Folly, prompts me to think that it would be worth inquiry, *whether the gout is not as effectual against madness; and we may reasonably believe that it is so, if upon examination, it should be found that there are no gouty people in Bedlam;* and then for the recovery of these poor creatures to their wits again, it

will not need much consideration, whether they ought not to be excused the hard blows which their barbarous Keepers deal them, and the Therapeutick method of Purging, Bleeding, Cupping, Fluxing, Vomiting, Clystering, Juleps, Apozemes, Powders, Confections, Epithemes, Cataplasms, with which the more barbarous Doctors torment them, and instead of their learned Torture, indulged for a time only, a little intemperance as to wine, or women, or so; or the scholar's delight of feeding worthily, and sleeping heartily, *whereby they might get the Gout, and then their madness were cured.*"

In the 'Annales Médico-Psychologiques,' 1869, Dr. Berthier records 22 cases in which the two diseases were associated. "One was a case of Stupor, 1 Delusional Insanity of a melancholy character, 2 Suicidal Melancholia, 3 Simple Dementia, 4 in which the features of the malady were not well defined, 5 Dementia Paralytica, and 6 General Mania. Of these, 8 have been observed by the author himself, and in 6 of them hereditary predisposition was ascertained. In 12 cases the Insanity was consecutive to disappearance of gout, in 8 cases it alternated with it, in 2 cases it accompanied the gouty condition. The great majority occurred among males. He draws the following conclusions :—1. If the gout has a marked action on the mind of its victims and a special predilection for the nerves, it may, under the influence of the predisposition, become the source of every kind of neurosis, and chiefly those affecting the sight. 2. The psycho-neuroses dependent on the gouty diathesis are sometimes and more commonly metastatic and alternating, and sometimes connected with a specific condition which disposes the system to the development of a latent or larval vesania. 3. Gouty Insanity, though generally associated with fixed gout, will when its study has been completed be frequently recognised in union with wandering or anomalous gout. 4. Sometimes the gouty symptoms disappear and become lost in the Insanity, which then passes into the chronic and incurable state of Dementia. 5. Gouty Insanity must henceforth be regarded as having an established place in science and is to be classed along with dartrous, syphilitic, rheumatismal, &c. 6. It shows a preference for the form of general Mania. 7. The diagnosis of Gouty Insanity is to be drawn from the heredity, the antecedents of the patient, the connection of the Insanity with gout, and the presence in the urine of the characteristic

chemical ingredients" ('Asylum Journal of Mental Science,' January, 1871, p. 616).

Tubercular Insanity.

Esquirol observed that in a great number of the insane he had seen phthisis precede, by many months, Melancholia and even Mania, as well as appearing at the same time. Schr. v. d. Kolk, likewise, has remarked upon the close relation which exists between affections of the chest and Insanity. While disease of the heart leads rather to apoplexy, pulmonary phthisis, he says, "appears to me to stand very frequently in close connection with Insanity. It is remarkable when in the very same family some of the children suffer from Mania or Melancholy, and the brothers and sisters who have remained free from these diseases die of Phthisis. This I have observed so many times that I cannot regard it as a mere accident. Sometimes Phthisis and Mania alternate. . . . More than once I have observed that a far advanced pulmonary Phthisis which appeared likely to lead to a speedy death, came quite unexpectedly to a standstill, so that all phthisical symptoms, the cough, the hectic fever, and so forth ceased in a short time. But thereupon a Mania or a Melancholy occurred, with which the patient, who shortly before could scarcely speak on account of the violent cough and copious expectoration, breathed freely and deeply, talked without coughing, and, indeed, even shouted. If then the Mania vanished, the Phthisis immediately reappeared and probably caused death." ('The Pathology and Therapeutics of Mental Diseases,' p. 149.) Griesinger also refers to tubercular disease as "sometimes the cause of the development of Insanity."

Since Van der Kolk wrote, the relation between Tuberculosis and Insanity has been very carefully investigated by Dr. Clouston, and a valuable article in the 'Journal of Mental Science' for April, 1863, contains the result of his investigations.

Definition.—Dr. Clouston includes under Phthisical Insanity, or Mania, only those cases which died within five or six years after becoming insane, and in which the development of the two diseases was nearly contemporaneous.

Symptoms.—A table is given in the above article showing the

form of Insanity on admission and at death in 282 patients who died with tubercular disease at the Royal Edinburgh Asylum.

On *admission* the form of Insanity was: Acute Mania in 34 cases, Mania in 40, Monomania in 54, Melancholia in 51, Dementia in 71, and General Paralysis in 32. Of 103 patients who had been insane only a short time—under three months on admission—30 were cases of Acute Mania, 16 of Mania, 12 of Monomania, 27 of Melancholia, 9 of Dementia, and 9 of General Paralysis.

Of the total number of cases (282) the form of Insanity at *death* was as follows:—Acute Mania 12, Mania 15, Monomania 39, Melancholia 29, Dementia 153, General Paralysis 34. Of the 103 cases just mentioned, the form at death was:—Acute Mania 9, Mania 8, Monomania 11, Melancholia 18, Dementia 47, General Paralysis 10.

As pointed out by Dr. Clouston, while the tendency of all the forms to pass into Dementia is shown by these figures, this is much less marked in regard to Monomania and Melancholia, for of 12 of the former 11, and of 27 of the latter 18, remained in the same mental condition, while of 46 maniacal cases, only 17 presented the same type, the rest having passed into Dementia. On comparing these results with non-tubercular cases, it is shown that while half the tubercular cases were demented at death, only one quarter of the non-tubercular were so; only one tenth of the tubercular patients died maniacal, while there were one fifth of of the non-tubercular; one tenth of the tubercular, and only one twelfth of the non-tubercular cases were Melancholiacs; one seventh of the tubercular, and only one ninth of the non-tubercular cases were Monomaniacs; and only one eighth of the tubercular, while one third of the non-tubercular were examples of General Paralysis. An interesting fact is elicited when the Monomania of suspicion is separated from the other forms. "All the females with this form of Insanity, except one, were found to have tubercular deposit after death, while only six of the males were exempt." In cases of General Paralysis with tubercular disease Dr. Clouston found that in nearly all, the Insanity had commenced with depression of spirits, many being suicidal and refusing food. If, subsequently, ambitious delusions were present, they appeared modified in character—less extravagant than usual.

Dr. Clouston says that there are certain cases of which, from their mental symptoms alone, he could predict that they would probably die of phthisis. "They are not all cases of Mania nor of Melancholia, nor of Monomania, but some of them would come under one of these divisions, and some under another. There is no one symptom they have in common, and no well-defined line of demarcation separating them from other cases. There is no diathetic mark or physical sign to distinguish them, yet they take their place in one's mind as a natural group notwithstanding. If they have been acute at first—either acutely maniacal or acutely melancholic—the acute stage is of very short duration, and passes neither into a chronic stage nor into degeneration, but into an irritable, excitable, sullen, and suspicious state. There is a want of fixity in their mental condition. The intellect is not at first so much obscured, as there is a great disinclination to exert it; and there are occasional, unaccountable little attacks of excitement, lasting only a very short time, unprovoked paroxysms of irritability and passion in a subdued form. There is a disinclination to enter into any kind of amusement or continuous work; and if this is overcome, there is no interest manifested in the employment. It might be called a mixture of Subacute Mania and Dementia, being sometimes like the one and sometimes like the other. As the case advances the symptoms of Dementia come to predominate, but it is seldom of that kind in which the mental faculties are entirely obscured, with no gleam of intelligence or any tendency to excitement. If there is any tendency to periodicity in the symptoms at all, the remissions are not so regular nor so complete nor so long, as in ordinary Periodical Insanity. If there is depression, it is accompanied with irritability and the want of any fixed depressing idea or delusion. If there is any single tendency that characterises these cases, *it is to be suspicious.*" Dr. Clouston found that of 136 men with tuberculosis, 56 manifested suspicion; while of 146 women, 64 did so. Twenty per cent. of all the cases had hallucinations; being twice as frequent among the women as the men. The order of frequency was—hearing, seeing, smelling. Twenty-five per cent. manifested suicidal tendencies, the proportion among the general admissions at the asylum being barely 21 per cent. "In many of the cases the Insanity commenced insidiously, and showed itself by an alteration of conduct and affection, an increased irritability and waywardness and a pro-

gressive weakening of the intellect without any great excitement or depression. Some cases of the so-called Moral Insanity, die of phthisis very soon. However demented these cases of Phthisical Mania may seem to be, there are fitful flashes of intelligence, and in them, perhaps, more frequently than in any other class of cases, there is increased intelligence, and as it were, a slight unveiling of the mental faculties immediately before death."

It appears that patients with Tubercular Insanity do not get stout so frequently as in ordinary Dementia. "Frequently the appetite is capricious. The pulse is generally weak, and frequently more rapid than usual. There is a want of tone and energy about the system which is very noticeable." "Phthisis is entirely latent in between one third and one fourth of all the cases among the insane, and in almost all the others, it is latent for a considerable time. This latency is most frequent in General Paralysis, in which the majority of cases exhibited no symptoms whatever."

Prognosis.—Very unfavorable as regards recovery of mental health; apparent recoveries proving only remissions. As to mortality, one half of Dr. Clouston's cases died within the first three years after becoming insane, about one quarter dying within the first twelve months. Two thirds died before the termination of six years.

In connection with Tubercular Insanity, it may be observed that attention has been directed to the relation between cancer and mental disease, and writers have spoken of Cancerous Insanity. In the 'Annales Médico-Psychologiques,' 1869, Dr. Berthier treats the subject at some length and states some interesting facts. Some of his conclusions are as follows:—"Disorders of the motor functions are more frequent than those which affect the sensibility or the intellect. 2. Cerebral cancer takes a long time, often years, to show itself by physical signs; and the mental symptoms which result from it may be entirely wanting. 3. Mental derangement observed in the initial or prodromic period of cerebral sarcoma, is constituted by a condition partaking somewhat of general, and somewhat of febrile delirium, which passes on inevitably to Stupidity, and ultimately to Dementia. 4. It never exhibits itself under the form of Hypochondria, or of the happiness peculiar to General Paresis. 5. The expressions 'Mania' and 'Idiocy' employed by Delpech, &c., are deficient, perhaps, in precision as to terms,

but they are accurate if they signify the commencement of the mental affections which are connected with cerebral sarcoma. Cancerous Insanity, properly so-called, rather rare, is a diathetic affection of incontrovertible existence, but still enveloped in great obscurity, both as to diagnosis, ætiology, and treatment." ('Journal of Mental Science,' Jan. 1871, p. 618.)

Syphilitic Insanity.

We observe that of 1097 patients admitted during seven years into the Rheinau Asylum near Zurich under Dr. Wille (501 men and 596 women), syphilis was given as a cause, for 16 men and 12 women, being 2½ per cent. of the whole, or 3 per cent. for men and 2 per cent. for women. Dr. Wille believes that these numbers are quite below the proportion of cases in which syphilis is a cause of mental disease, for patients labouring under it are often treated at home or in hospitals, and with regard to those who enter asylums, it is often difficult to ascertain the fact of the patient having had syphilis. It presents itself under two forms, congenital weakness of mind, and acquired Insanity. Of the latter, Wille gives the symptoms derived from 77 cases; the most frequent being progressive Dementia with considerable loss of memory, but without expansive ideas, preceded by a period of Hypochondriacal Melancholy. When in an early and active form, it may assume all the recognised forms of mental disorder, but rarely Acute Mania. There may also be alternations between Melancholia and great mental weakness.

In addition to syphilitic pains in the head, there is frequently some lesion of the motor or sensorial centres, the character of the former being closely allied in character to General Paralysis; the latter lesion is sometimes manifested by sudden loss of sight.

Hypochondriasis, often assuming the character of Syphilophobia, is the most important symptom of this form of Insanity, and if recovery does not take place, Dementia is to be feared.

The disease may come on immediately after infection, or be preceded by cerebral attacks, either of an epileptic or apoplectic character, Dementia gradually and insidiously supervening. Three forms are given by Wille,—the first the irritative simple form, generally due to an anæmic state; the

second, marked by general mental disorder due to meningitis and softening; and the third, distinguished by psychical disturbance due to circumscribed inflammatory softening, atheroma of the vessels, and gummous neoplasma of the brain and meninges ('Hirn und Hirnhautgummata').

This form of Insanity has been treated of by Jessen and Esmarch, 1857; Albers, 1859; Meyer, 1861; Leubuscher, 1861; Dr. J. F. Duncan, 'Dublin Journal for Medical Science,' Feb., 1863; Westphal, 1864; Mendel, 1868; Erlenmeyer, 1869-70; Hildenbrandt, 'De la syphilis dans ses rapports avec l'aliénation mentale'; Die syphilitischen psychosen,' von Dr. Wille, 'Allgemeine Zeitschrift für Psychiatrie,' 1872, p. 503; 'Hirn-syphilis und Dementia paralytica,' von Dr. Schüle, Illenau, idem, p. 605.

Epidemic Insanity.

We have referred to Epidemic Insanity at the close of the list of somato-ætiological forms of Insanity (p. 318), and we may here add to the references already made in this work to the tendency manifested by some mental disorders, as Suicidal Insanity, to assume an epidemic character, a notice of one very striking and important example of mental epidemics. (See note on Choreic Insanity, p. 377.)

Closely allied with Hysterical Insanity on the one hand and Epileptic Insanity on the other, and when ceasing to be sporadic, forming the best illustration of Epidemic Insanity, is a form of mental disorder known under the various designations of Tarantism, Dancing Mania, Tigretier, Chorea-Demonomania and Choreomania, but which must not be confounded with ordinary chorea in combination with Insanity. It consists of an irresistible impulse to active movements, remarkably stimulated by music, with marked perversion of the feelings. We shall not attempt to describe even the most striking examples of this remarkable disorder, which on several occasions has deeply affected the course of political and religious national life. To do so would be to give a digest of Hecker's well-known work on 'The Epidemics of the Middle Ages,' to which and to Hæser's 'Geschichte der Epidemischen Krankheiten' we refer the reader. We

shall simply add a brief narrative of Epidemic Choreomania to which a missionary in Madagascar recently called our attention, and subsequently supplied us with a pamphlet written by Dr. Davidson, physician to the Court of Madagascar, which describes the epidemic of which he was an eye-witness in a very lucid manner. His narrative, abridged, is as follows :

"In the month of February 1863, the Europeans resident at Antananarivo, the capital of Madagascar, began to hear rumours of a new disease, which it was said had appeared in the west or south-west. The name given to it by the natives was Imenanjana, and the dancers were called Ramanenjana, which probably comes from a root signifying to make tense. The name did not convey any idea of its nature, and the accounts given of it were so vague as to mistify rather than enlighten. After a time, however, it reached the capital, and in the month of March began to be common. At first, parties of twos or threes were to be seen, accompanied by musicians and other attendants, dancing, in the public places ; and in a few weeks these had increased to hundreds, so that one could not go out of doors without meeting bands of these dancers. It spread rapidly, as by a sort of infection, even to the most remote villages in the central province of *Imerina*, so that, having occasion to visit a distant part of the country in company with an Englishman, we found even in remote hamlets, and, more wonderful still, near solitary cottages, the sound of music, indicating that the Mania had spread even there.

The public mind was in a state of excitement at that time, on account of the remarkable political and social changes introduced by the late King Radama II. It is unnecessary here to explain the nature of these changes, or the way in which they moved the people generally, and roused the superstitious feelings of the lower classes. A pretty strong anti-Christian, anti-European party had arisen, who were opposed to progress and change. This strange epidemic got into sympathy, especially in the capital, with this party, and the native Christians had no difficulty in recognising it as a true demoniacal possession. There was universal consternation at the spread of this remarkable disease, and the consternation favoured its propagation.

Those affected belonged chiefly, but not by any means exclusively, to the lower classes. The great majority were young women between fourteen and twenty-five years of age; there

were, however, a considerable number of men to be seen amongst the dancers; but they certainly did not exceed one fourth of the entire number, and these also belonged mostly to the lower orders of society.

Very few, indeed scarcely any, Christians came under this influence, no doubt partly because the general spirit of dissatisfaction and superstitious unrest did not affect them directly.

The patients usually complained of a weight or pain in the præcordia, and great uneasiness, sometimes a stiffness about the nape of the neck. Others, in addition, had pains in the back and limbs, and in most cases there seems to have been an excited state of the circulation, and occasionally even mild febrile symptoms. One or more of these premonitory symptoms were frequently observed; there were numerous cases where they were absent. After complaining, it may be one, two, or three days, they became restless and nervous, and if excited in any way, more especially if they happened to hear the sound of music or singing, they got perfectly uncontrollable, and, bursting away from all restraint, escaped from their pursuers, and joined the music, when they danced sometimes for hours on end with amazing rapidity. They moved the head from side to side with monotonous motion, and the hands, in the same way, alternately up and down. The dancers never joined in the singing, but uttered frequently a deep sighing sound. The eyes were wild, and the whole countenance assumed an indescribable, abstracted expression, as if their attention was completely taken off what was going on around them. The dancing was regulated very much by the music, which was always the quickest possible—it never seemed to be quick enough. It often became more of a leaping than a dancing. They thus danced to the astonishment of all, as if possessed by some evil spirit, and, with almost superhuman endurance, exhausting the patience of the musicians, who often relieved each other by turns, then fell down suddenly, as if dead; or, as often happened, if the music was interrupted, they would suddenly rush off as if seized by some new impulse, and continue running, until they fell down almost, or entirely, insensible. After being completely exhausted in this way, the patients were taken home, the morbid impulse apparently in many cases destroyed. Sometimes the disease, thus stopped, never recurred; but more frequently there was a return. The sight of dancers, or the sound of music, even in the distance, or

anything which, by association, seemed connected with the disease, determined a recurrence of the fit.

The patients were fond of carrying about with them sugar-canes. They held them in their hands, or carried them over the shoulder while they danced. Frequently, too, they might be seen going through their singular evolutions with a bottle of water upon their heads, which they succeeded wonderfully in balancing. The drum was the favourite instrument, but others were used, and all were acceptable. When there was no musical instrument to be had, the attendants beat time with their hands, or sung a tune which was a favourite amongst the Ramanenjana. There is a sacred stone in a plain below the city, where many of the kings of Madagascar have been crowned. It is a large, rather irregular, stone, partly built, so as to round it off, and is about eight feet high, and twelve feet in diameter. This stone was a favourite rendezvous for them. They danced here for hours on end, and concluded by placing the sugar-cane, as a sort of offering, upon the stone.

The tombs were also favourite places of resort for these dancers. They met in the evenings and danced by moonlight for half the night, or longer, amongst the graves.

Many of them professed to have intercourse with the departed, and more particularly with the late queen. In describing their sensations afterwards, some said that they felt as if a dead body was tied to them, so that with all their efforts they could not shake themselves clear of it; others thought that there was a heavy weight continually dragging them downwards or backwards. They disliked, above all things, hats and pigs. The very sight of these objects was so offensive that, in some cases, it threw them into a kind of convulsion; but more frequently excited their rage. Still more inexplicable was their dislike of every article of dress of a black colour. Swine are reckoned unclean by several tribes in Madagascar, and might thus be an object of superstitious horror. Hats, as associated with foreigners, might similarly be objected to; but what is there in a colour to excite antipathy? Yet this caprice has been so common in this disease, in all its recorded epidemics, as to deserve attention. This phenomenon was likewise observed in the child-pilgrimages of the thirteenth century, which, towards the end, began to assume some of the characteristics of Choreomania.

The most intellectual of all the senses, that of hearing, is always

affected to a remarkable degree, as evidenced not only by the morbid desire for music, but by the illusions and delusions connected with this special sense. All this points to a morbid condition, not only of the motor centres, but of the most important ganglia at the base of the brain,—a morbid condition chiefly functional in character, and produced by psychical causes.

The disease was rarely fatal; still a few cases of death undoubtedly happened, and these only occurred, so far as I am aware, where the patient was restrained from joining in the dances. It would seem that *these* actually died from pent-up passion or excitement. The dancing, no doubt, was so far salutary. The music served to regulate and control the wild muscular movements that might otherwise have proved injurious. A most remarkable fact is, that the mere physical exercise, prodigious and long-continued as it is in this disease, seems perfectly harmless. I never heard of its having proved fatal, nor even to have produced abortion in pregnant women,—a circumstance observed by Burton in his account of the earlier epidemics, and enforced with more than his usual pith and quaintness." Dr. Davidson adds:

"Since this first, and most remarkable outbreak, the disease has occurred annually every spring. We find in the 'Post' the following account of the slighter epidemic of 1864, evidently written by a European resident in the island:

"'The Queen has been greatly alarmed at an epidemic of the Ramanenjana, which has raged over the capital. This disease is a sacred malady, of an extrordinary character, and of which the doctors understand nothing (too true!). The patient is seized with convulsions, raises savage cries, and rolls on the ground in the streets. The population is, almost entirely, soon stricken with the same malady, and great processions of people pass along the streets creating disorder, and such movements are often taken advantage of to upset a throne or overturn a ministry. The unfortunate Radama was a victim of the Ramanenjana of 1863.'

"From inquiries that I have made, I find that a similar disease has existed in Madagascar for at least fifty years, and is called 'Ambo.' It seems in no respect different from Choreomania, except that it is sporadic."

Dr. Davidson concludes that Choreomania is a distinct psycho-physical disease, with its leading features clearly marked and uniform—to be distinguished from modern chorea and from organic nervous

disease; that there is always, as an *essential* part of it, an uncontrollable impulse to dance, and a morbid love of music; very generally also, peculiar caprices regarding certain colours and objects, the power of speech being occasionally affected, and moral mania common; that the subjects of this disease are those most liable to hysterical diseases, viz. young women about the age of puberty, and men of an excitable temperament; that although it may be sporadic, it shows a tendency to become epidemic during periods of general excitement; that in its epidemic form it is usually associated with some prevalent deep-rooted belief or superstition; that it spreads by what we may call pathological sympathy; and lastly that when epidemic, it is generally preceded by premonitory symptoms referable to the nervous system, and secondarily induces physical derangement, and sometimes even death. (Op. cit., p. 15.)

In addition to the works referred to, see a very interesting account by Dr. Constans of the "Epidémie d'Hystéro-Démonopathie," in 1861, at Morzines, in the Department of Chablais (in Haute-Savoie), Paris, 1863. In connection with Epidemic Insanity in man, Dr. Lindsay's valuable articles on "Mental Epidemics among the Lower Animals," in the 'Journal of Mental Science,' Jan., 1872, &c., should be read.

CHAPTER V.

DIAGNOSIS OF INSANITY.

No class of disease with which man is afflicted is so various in its manifestations as that known under the general term of Insanity. No diseases present such an infinite variety of light and shade belonging to their own nature, or to their intermixture with other maladies, or to the influence of temperament, of individual peculiarities of habit, or of social position; and, therefore, the diagnosis of no other class of diseases taxes nearly so much the ingenuity and the patience of the physician. The diagnosis of almost all other diseases depends principally upon weighing the evidence afforded by physical signs and symptoms, upon evidence addressed to the senses; but in mental disease it is, for the most part, dependent upon evidence which is cognizable by the intellect alone, and upon data which the senses furnish to us only at second hand. The physician is compelled to bring to this investigation, not only a knowledge of those functions which are subservient to the vegetative and animal life of the individual, but also a clear analytical conception of those which collectively constitute mind. He must not only be a physician, but a metaphysician; not, indeed, in the almost opprobrious sense of this term, but in that better sense which designates a lover of truth, seeking to ascertain, not the essence of mind or any other unattainable abstraction, but the laws of mind, which are as regular as any other natural laws, and to attain the knowledge of which offers a useful and legitimate object of philosophic research.

We adopt in this chapter the well-known classification of Insanity, into Mania, Monomania, Melancholia, Dementia, and Idiocy; not because we think this classification unexceptionable, but because it seems to be a convenient one, founded upon the most prominent phenomena of the disease, to be provisionally used, until a more scientific classification, founded upon

the pathological causes and real nature of Insanity, can be established.

The Diagnosis of Insanity presents itself to the physician either in a purely medical or in a medico-legal point of view. When the question is of the former character, upon the answer given will depend not only the kind of medical treatment, as in other diseases, but the enjoyment or the loss of the patient's liberty; inasmuch as the fact of Insanity having been once established, in the great majority of instances the patient is not merely placed under treatment, as in an ordinary disease, but "detained under care and treatment," with loss of personal freedom, and unfortunately, also, with a certain amount of unjust opprobrium attaching to himself and his relatives.

The question, as a medico-legal one, may occur either in civil suits and proceedings, or in criminal trials. In the former case, the distribution of property to a vast amount, the validity of wills, of contracts, and of other social and commercial acts, often depend upon the decision of the physician; and in criminal trials the frequent issue of the question is the awful one, whether a human life shall be sacrificed with violence and ignominy, or spared by establishing the plea of Insanity.

Whether the question be purely medical, or medico-legal, in its bearings and apparent consequences, the grounds of the diagnosis must be the same. For, although in criminal trials, the nature of the crime itself, and the manner in which it has been effected, must often be allowed to have no inconsiderable weight in the formation of the judgment, yet, these circumstances are essentially no other than a part of the conduct of the patient; and the conduct must be carefully estimated, even when the question is most purely medical. But, while it is necessary clearly to understand that the principles of diagnosis are the same, whatever may be the object for which the diagnosis is required, it will be found practically convenient to consider its difficulties separately, as they occur under the different circumstances above alluded to.

We shall, therefore, in the first place, treat the question as it presents itself to a medical man called to see a patient labouring under symptoms which have caused alarm and anxiety to his friends, who are desirous to ensure his and their own safety, to provide without delay the treatment which affords the

best promise of recovery, and, above all things, to have the momentous question decided for them, of confinement in an asylum, or of treatment at home. In the second place, we shall endeavour to lay down rules for distinguishing the different forms of Insanity from each other, and from those *neuroses* for which it is possible they may be mistaken. And, in the third place, we shall treat of the diagnosis of sound and unsound mind, in relation to civil capacity, responsibility for criminal actions, and feigned and concealed Insanity.

Difficulties of Inquiry.—When a medical man is called to see a patient whose conduct has excited suspicions of Insanity, before he proceeds to personal interrogation and examination he will act wisely in making himself as thoroughly acquainted as he can attain to be with the antecedents and the history of the patient. He will naturally expect to be instructed on these subjects, with fulness and candour, by the near relations of the patient, but in this expectation he will repeatedly meet with disappointment. The systematic manner in which members of families, often deeply tainted with Insanity, attempt to deceive both themselves and everyone else, throws no small difficulty in the way of the medical man. The dread of Insanity in many families of this kind is so great as to constitute in itself a morbid feeling sufficiently strong to mislead the observation, to warp the judgment, and to occasion sins of concealment and untruthfulness towards those who have a right to expect and to demand the fullest and most explicit confidence. The great pertinacity with which members of insane families will often deny the slightest hereditary taint of Insanity, even to a medical man called in to treat a patient labouring under the disease, would scarcely be credited were it not a matter of no infrequent experience. Much of this may, no doubt, be attributed to the sense of the shame and disgrace which has most unrighteously been connected with the idea of mental disease. But a great proportion of it must also be attributed to the unhappy fact that all the members of such families, even while they retain the full possession of their mental sanity, are not infrequently peculiar, strange, eccentric, unaccountable, and by no means to be depended upon in affairs requiring the exercise of sound sense, good temper, and self-denial. In such a family, the medical man, whose professional assistance has been solicited on account of marked and obvious

mental symptoms of one member of it, will often find himself surrounded by relatives of the patient from whom he can derive little information which is unbiassed and trustworthy. He will often find the household divided against itself, one portion of it extenuating and palliating the conduct of the patient, the other exaggerating and attributing it to the worst motives. Under such circumstances, the medical man had better take things as he finds them, and listen to all parties with patience. He will be able to arrive at conclusions the more readily if he avoids cross-examination, and all appearance of participation in the family feud. If he cannot obtain information upon which he can rely from the immediate relatives of the patient, he will do well to make inquiries, with prudence and caution, of trustworthy friends, whose evidence will often be the more truthful, as it is less subject to the bias of feeling. In this manner, the physician will be able to satisfy himself as to the existence or not of hereditary predisposition, and of previous attacks, two points of the utmost diagnostic importance; perhaps not less so than that of hæmoptysis in the diagnosis of consumption.

Diagnostic Value of Hereditary Tendency.—The degree of hereditary taint may, to a certain extent, be ascertained and estimated. Thus, the Insanity of one parent would indicate a less degree of predisposition than that of a parent and an uncle, and still less than that of a parent and of a grandparent, or of two parents. The Insanity of a parent and a grandparent, with an uncle or aunt in the same line, may be held to indicate even stronger predisposition than the Insanity of both parents. The influence of the Insanity of parents in creating a predisposition, will depend, to a great extent, upon whether it has taken place before or after the state of parentage commenced. The Insanity of a parent, occurring after the birth of a child, if it arose from a cause adequate to excite it, without previous predisposition, would of course be held as of no value in the formation of hereditary tendency. The Insanity of brothers or sisters may be of much or of little value, as evidence of predisposition, according to the circumstances under which it has shown itself. If several of them, both older and younger than the patient, have become insane, the fact tells strongly in favour of predisposition, although neither parent nor grandparent may have been lunatic; since it is well known, that other conditions in the parent, besides that

of actual Insanity, may create this predisposition; for instance, violent and habitual passion, the debility of old age, and, most of all, habits of intemperance at the time of procreation. The Insanity of cousins cannot be said to be worth anything as evidence of predisposition, except in corroboration of nearer and weightier facts.

It will thus be seen that the evidence of hereditary predisposition may be of such a character as to render the Insanity of the patient an event in the highest degree probable; or, on the other hand, it may be so weak as to add a scarcely appreciable amount of probability to the character of the disease.

Of Previous Attacks.—The value which ought to be attached to evidence of previous attacks of Insanity is considerable, since few diseases more frequently recur than those which affect the mental functions of the brain. A slight and transient attack, however, respecting the real nature of which there may have been some differences of opinion, will be of very different import from a prolonged attack of decided character. Moreover, the greater the length of time which has elapsed since any previous attack has been recovered from, the less will be the value of it as an indication of the nature of the existing disorder.

Of Change of Habits and Disposition. — Besides these two important points of hereditary predisposition and of previous attack, the physician must inform himself respecting the habits, the character, and the disposition of the patient. In doing so, he must bear in mind that they will influence his judgment in three ways. In the first place they will enable him to form an opinion as to the kind of man which the patient has been when in health, and as to the greater probability of his having become the subject of mental disease or of some other disorder, as, for instance, of a chronic attack of drunkenness, or if a woman, of hysteria. The disposition and character when in health, would be of considerable value as evidence, if the physician could know them from personal observation; but descriptions can scarcely be given with sufficient lucidity to render any opinion formed upon them of equal importance. An alienist physician of judgment and experience might be able to point out, in the circle of society with which he is acquainted, nearly all the men who are very likely to become insane; but were he imprudent enough to make known this invidious prescience, it would be found that his judgment

differed widely from the opinions on this subject which are current in the world. It would be found, for instance, that his prophecy would not often rest upon those men who are called eccentric. Eccentricity more frequently depends upon a disregard of public opinion, in trifling and non-essential matters, than upon any twist or perversion in the mind of the individual. The eccentric man is often a large-hearted and a courageous man, and as such, one of the last to become insane. The ominous forethought of the physician would rather rest upon the man over-susceptible concerning the good opinion which others may entertain of him; the suspicious and timorous man, who hears scandal before it is spoken, and apprehends the commencement of every possible mischief; the man who has not at the bottom of his heart a sincere liking for his fellow-creatures, but who is querulous and contentious, and who perpetually finds himself in disaccord with the world; also the over-average man full of fickle confidence. These are the types of men whom predisposing and exciting causes are most likely to plunge into Insanity.

In the second place, these inquiries will enable the physician to compare the present behaviour and habits of his patient with those which were his when in a state of health; to contrast him, as it were, with his former self, a proceeding which often affords a most satisfactory evidence of morbid change. It must be borne in mind, that in Insanity the natural character of the patient is either changed or exaggerated. When simple exaggeration has taken place—when a man who has all his life been intemperate, or passionate, or gloomy, has merely become more intemperate, outrageous, or desponding, the change will have been, in all probability, unobserved for a much longer period than when an actual alteration of character has taken place; and even when observed, this exaggeration of natural character is less readily attributed by friends and relatives to the effects of Insanity, than in the other case. The physician, therefore, finds it more difficult to obtain satisfactory evidence of the influence of mental disease, when it only exaggerates the natural character, than when it changes it. And when he is able to obtain such evidence, he will very frequently find that the disease has already been of long standing; an unhappy circumstance, attributable to the insidious manner in which it progresses when it takes this form. When, on the other hand, the natural character of the patient undergoes a

change, the event is generally too remarkable to escape early observation. When, for instance, the man of sober and steady habits becomes intemperate and dissipated; when the prudent and careful man suddenly becomes rash, speculative, and extravagant; when the moral and religious man enters into courses of dissolute and shameless impropriety; when the carefully nurtured and modest female demeans herself in a bold, forward, and indecent manner, the contrast is so great, that it arrests the attention at an early period, and seldom fails to satisfy the friends of the patient that it is occasioned by disease.

At first sight, the two modes in which Insanity announces itself by its influence on the character appear to be essentially different. On a nearer view, however, it will perhaps be found that the difference is more apparent than real, and that in those cases where the greatest alteration of character seems to take place, the real effect of the disease has not been to develope that which did not exist before, but merely to remove the checks and restraints which have kept it in subjection. A passionate or dissipated man merely becomes more passionate or dissipated under the excitement of incipient Mania; just as he would become so, for a time, under the excitement of intoxication; his natural character has never been under control; and, therefore, morbid excitement removes no previous restraint. But it is otherwise with persons whose natural propensities are restrained by moral and religious principles. There is a latent devil in the heart of the best of men; and when the restraints of religious feeling, of prudence and self-esteem, are weakened or removed by the operation of mental disease, the fiend breaks loose, and the whole character of the man seems to undergo sudden and complete transformation. Every medical man has observed the extraordinary amount of obscenity, in thought and language, which breaks forth from the most modest and well-nurtured woman under the influence of Puerperal Mania; and although he may be courteous and polite enough to join in the wonder of those around, that such impurities could have entered such a mind, and even for himself repudiate Pope's slanders, that "every woman is at heart a rake," he will nevertheless acknowledge that religious and moral principles alone are efficient in suppressing the sensuous tendencies of the female constitution; and that, when these are weakened or removed by disease, the subterranean

fires become active, and the crater gives forth smoke and flame.

In estimating exaggerations or alterations of character, the physician must be careful to make allowance for those which take place naturally, and in healthy minds. It by no means follows, because a person has become "a changed man," that he must therefore be an insane man. The nature of the change must be estimated with careful reference to its apparent cause and character. For instance, if, in the midst of prosperity and domestic happiness, a man underwent a change from a joyous and lively disposition to one of gloom and wretchedness, without any other apparent cause than the influence of predisposition to Insanity, the change would justly be held to be one of the most serious and ominous import. But if predisposition did not exist, and if heavy losses or domestic afflictions afforded a reasonable cause, such a change might take place without exciting the slightest alarm on the score of impending Insanity. Great changes often do take place in the character of individuals, and in their habits of life, without the slightest suspicion of Insanity. For instance, when a dissipated and reckless young man is brought under the influence of strong religious convictions, the external manifestations of his character undergo a complete change. On the one hand, a youth who has been brought up in the strict observance of a rigid religious discipline without appreciating the principles upon which it is founded, when the repressive influence of parental or other authority is removed, may undergo an unfavorable change of character, and become thoroughly dissipated, without affording any indication of mental disorder.

In this exaggeration of character, also, the natural influence of circumstance must be allowed to have its due weight. Thus, particular callings and professions have a strong tendency to develope particular characteristics. If, for instance, a clergyman acquired arbitrary and dictatorial habits, or a physician became particularly intemperate and jovial, such developments of character would have a very different significance from that which would attach to them, if the first had occurred in a sea-captain, and the last in a Boniface.

One caution is necessary in estimating sudden and remarkable changes of character, namely to be on guard against the vagaries of hysteria. The hysteric temperament, in either sex, often pro-

duces the most extraordinary changes in apparent character; but they are changes in appearance only, and the versatile subject of them who is "everything by starts, and nothing long," remains essentially the same fickle, superficial, deceptive being, under all phases of character.

In the third place, a careful inquiry into the habits of the patient will often enable the physician to discover an adequate cause for the production of Insanity. It will often, for instance, make him aware of habits of intemperance, which are an amply sufficient cause; or of habits of strong mental excitement, such as those afforded by gambling, whether it be of the unlawful sort or the legal gambling of rash speculation; or it will indicate to him religious and social habits and practices testifying to the existence of that fanatical temper, and those peculiar views, which statistics prove to be highly influential in the production of mental disease.

Such a preliminary inquiry will also make the physician aware of family feuds and dissensions, and it will instruct him on many other matters of the like kind, which it is absolutely essential that he should know, before he can weigh all the evidence of his patient's Insanity, with that nice discrimination which the delicate and difficult nature of the inquiry frequently demands.

Although we have not yet introduced the physician to his patient, we have, nevertheless, engaged his attention in matters which will greatly assist his judgment. Thus, if he is informed on credible testimony, that the parents or grandparents have been insane, that the patient has beforetime undergone attacks of Insanity, that his character has recently become changed in a notable and strange manner, and that, moreover, he has been intemperate, or subjected to some other influence capable of exciting mental disease; if all, or part of these circumstances have been ascertained, the physician will find the further examination, and the formation of his ultimate judgment, infinitely more easy than if he had entered upon it without such previous instruction.

Manner of Examination.—In the personal examination of the patient, the greatest tact and discretion are required. A physician called to treat any bodily disease, at once commences with direct and pertinent questions; but, in all difficult cases of mental diagnosis, such a proceeding would surely defeat its ends. The

physician often indeed finds some difficulty in contriving to be introduced to the patient, and in commencing a conversation without bringing about the éclaircissement which, above all things, is to be avoided. If the patient is strongly pre-occupied with a delusive idea, or by maniacal excitement, of course no difficulty will exist; and sometimes, in cases of Melancholia, the patient will himself be most anxious to consult the physician on his mental state. But, when the disease is in the incipient stage, and when the patient is suspicious and hostile, the matter of introduction and the opening of conversation require much tact, and sometimes a little contrivance. In cases of bodily disease, it would not be unusual or improper for the physician to commence with, "I am sorry to hear from your good lady, that you have lately been troubled with shortness of breath, and pain in the chest, &c." But if the alienist physician were to open the campaign after this fashion, with, "Sir, your wife informs me that you have lately been subject to fits of ungovernable passion, alternating with despondency, &c.," the patient would probably turn the flank of the mal-adroit physician, or, at least, beat a hasty retreat. We cannot go so far as to assert, that small deceptions must never be practised; such, for instance, as apparently calling in the physician to see another member of the family, affected with a convenient illness; but of this we are convinced, that the discovery of even the slightest deception, will have a prejudicial influence on the future treatment. In almost all cases, the physician may readily enough engage the attention and the goodwill of the patient, if he commences with sympathising inquiries respecting any bodily symptoms and ailments, or respecting any matters in which he can ascertain that the patient takes a lively interest.

The physician will rarely act with wisdom, if he at once assail the citadel of the disease. He must first endeavour to occupy the outworks. His efforts must be directed to placing himself on good terms with his patient. For this, only general directions can be given. He must employ that tact derived from good sense and knowledge of mankind, without which he will find himself lame and impotent in this field of medical practice. By the time that a good understanding has been established between the physician and the patient, the former will have obtained, from the various sources which we have specified, information of the utmost importance for the guidance of his interrogations. If he is so unfor-

tunate as to have absolutely no history of his patient, he will have observed in him one of four things, either—firstly, a vacant and meaningless expression, and a childish absurdity of action, the signs of Dementia, of Imbecility, or those of General Paralysis ; or, secondly, a facial expression of deep and concentrated sorrow ; or, thirdly, indications in physiognomy, or demeanour, of strangeness and irregularity; or, fourthly, no outward indication of mental disease. In each of these facial divisions, a somewhat different method of interrogation has to be pursued.

In Melancholia, the patient is often only too ready to converse on his mental symptoms. In Imbecility, and early Dementia, his apprehension is not sufficiently alert to place him on his guard ; and in Mania, he either suffers from head-symptoms, respecting which he will readily converse with a medical man, or his mind is actively engaged on some project or object, which will afford the physician appropriate materials for conversation. The most difficult cases are those in which differences of opinion and of interest exist among the members of the patient's family, and the patient has quietly been told that it is wished to prove him insane, and to place him under confinement, and that the doctor is coming to examine him for that purpose. Under such circumstances, which are by no means uncommon, the physician must do the best he can ; and, if this is but indifferently well, he must content himself with the reflection that the fault is not his.

Peculiarities of Residence and Dress.—Immediately that the physician finds himself in the presence of his patient, "the facts observed by himself," upon which alone the law very properly insists that the diagnosis of Insanity shall really be made, will require the keenest exercise of his perceptive and analytic powers. Of course, there are a great number of cases in which the existence of Insanity is so evident, that, strictly speaking, diagnosis becomes quite unnecessary. When Insanity has assumed so marked a form, that, as Mrs. Page saith, "any madness I ever yet beheld seemed but tameness, civility, and patience to this distemper he is now in," the question of diagnosis gives way to that of treatment. But, in slight cases, and in early stages of the malady, the symptoms are by no means invariably conclusive, or even satisfactory. The physician will, therefore, do right to avail himself of every circumstance which can assist him in forming a correct judgment ; even as, in the diagnosis of phthisis, the

evidence afforded by auscultation and percussion does not justify him, where any doubts exist, in neglecting to examine the state of the hair, the finger ends, the gums, or any other part of the body capable of affording corroborative testimony. On entering a house in which the head of the family is supposed to be insane, the physician will not unfrequently find his attention attracted to many little circumstances, testifying to a want of order and direction in the household affairs. In the room principally occupied by the patient, things are especially found to be out of place; *bizarreries* often present themselves in the decoration of the walls and the arrangement of the furniture. A short time since, on visiting the house of a gentleman on whose mental condition we had been called upon to report, we remarked, among other things, a number of trumpery clocks. There were seven or eight of them in the hall, diligently at work to show the hour of the day, but all of them, like Charles the Fifth's timepieces, entertaining individual and very different opinions on that important point. In fact, the variation of time indicated by them extended to full three quarters of an hour. In reply to a remark, the owner of this array of pendulums told us that it was a great point with him to know the precise time, and that he bought all the clocks, at auctions and elsewhere, which he could obtain under a certain sum; he had so many clocks because, if one did not go accurately, another might. When told that a really good timepiece, purchased with the collective price of his trumpery horologes, would give him much more reliable information than all of them put together, since, if any one of them did by chance go accurately he could not tell which it was, he evidently conformed against his will, and retained his own opinion still. A love of order is rarely seen among the insane, except in some chronic cases where it has been acquired under asylum discipline, and the residence and room of the patient often bear traces of disorder; articles of clothing are scattered around, everything is disarranged, and the dress and person of the patient often bear evident marks of want of care and cleanliness. In fact, the description given by Rosalind of a lover, would have been much more true to nature if applied to an insane person—namely, "a lean cheek, a sunken eye, an unquestionable spirit;" "then your hose should be ungartered, your bonnet unbanded, your sleeve unbuttoned, your shoe untied, and everything about you demonstrating a careless desolation." This description

was, very likely, taken from the negligent dress of the insane, since the witty speaker, immediately afterwards, expresses her opinion, "that love is merely a madness, and deserves as well a dark house and a whip as madmen do." When Hamlet first affected madness, he went—

> "With his doublet all unbraced,
> No hat upon his head, his stockings loose,
> Ungarter'd and down-gyved to his ankle."

In erotic madness, indeed, the dress is not as fair Rosalind would have it, careless and disordered, but generally the contrary, and often fantastic, arranged with care and with the evident desire to attract admiration.

The patient's dress not unfrequently presents characteristic traits indicating the direction of insane delusion; for instance, in Ambitious Insanity it is made to ape the military or the regal cut, if the patient thinks himself a great general or a king. But these indications belong to a later period of the disease; and it may be taken as a general rule, that in the earlier stages of mental disorder the dress and personal condition of the patient are neglected. Sometimes there is great intolerance of dress, the patient seeming to suffer irritation from the customary articles of clothing. The propensity to remain wholly or partially naked is frequent, and owes its origin to various causes. A young lady may desire to live in the primitive simplicity of paradise; or she may think her body invisible, and wish to remove the gross envelopes which would render this corporeal translucency of no avail; or, clothing may be thrown off and destroyed out of mere mischief and destructiveness; or, the sensibility of the skin may be greatly enchanced, and the warmth and friction of clothing may cause much annoyance.

The physician's observation of the negligences, inconsistencies, vanities, and various peculiarities of the patient's dress will proceed concurrently with the more important observation of his appearance, demeanour, and conduct. The appearance of the patient will depend upon the expression of his physiognomy, the traits of temperament, the bodily conformation and condition, and the habitual postures and gestures. The whole of the above may be classed under the terms, appearance and demeanour. That which the patient says and does we may distinguish as his conduct.

Peculiarities of Bodily Condition.—The bodily condition of the patient, in regard to plumpness or emaciation, the state of the skin, the pulse, and the tongue, rarely affords information of any practical value in the question of diagnosis. The instances are so numerous in which the mental functions of the cerebral hemispheres may be greatly disordered, while the functions of all the other bodily organs remain healthy, that the deviations of the latter from the normal state cannot be relied upon as trustworthy data in the formation of an opinion as to the existence of mental disease. It may be laid down as a general rule, to which, however, there are numerous exceptions, that the insane do not possess robust bodily health. The early stages of Insanity are very frequently marked by emaciation, occasioned by loss of rest, wasting of the tissues from increased activity of the mental and bodily functions, and derangement of the alimentative processes.

This emaciation is one cause of the alteration and sharpening of the features which so constantly take place. When, however, the process of mental disease is gradual and insidious, especially if it arises from a strong predisposition, and without the intervention of disease in any of the organs subservient to the vegetative life, there may be little or no emaciation at any period. During the later stages of those forms of mental disease which are characterised by diminution or loss of power, it is well known that the body is often inclined to obesity.

Little reliance can be placed upon the indications either of the pulse or of the tongue, although in the early stages of Insanity the former is generally quicker than in health, and the latter is not unfrequently coated with a white central list. The skin is very generally harsh and dry, and not unfrequently affected with eruptive disorders. It is exceedingly rare to see a person in the early periods of Insanity, with a thoroughly clear healthy complexion.

The point of real importance to be attended to in the examination of the patient's bodily condition, is to ascertain whether any diseased condition of any of the organs exists, which may have been the remote cause of the malady. Disordered states of the abdominal viscera are of such frequent occurrence, that the veteran Jacobi, and some other physicians of eminence, have believed that they altogether account for the causation of mental disease. We are far from being able to concur in this narrow

view of the ætiology of Insanity; but no physician of much experience in this department of medical science will be likely to deny that disordered states of the stomach, the intestines, and the liver, do frequently constitute the remote causes of cerebral disease. The indications, therefore, of gastric and hepatic disorder observable in the tongue, the skin, and the nutrition of the body, are signs of the existence of this cause. It is as yet very uncertain whether diseases of the heart and of the lungs often operate as remote causes of Insanity. In our opinion, the probability is against this supposition, notwithstanding the numerous instances in which these organs are found to be diseased in persons dying insane. But there can be no doubt that uterine disorders constitute one of the most frequent remote causes of Insanity with which we are acquainted. If, therefore, the physician can ascertain that his patient has suffered, or is suffering from gastric, hepatic, intestinal, or uterine disorder, he will have discovered a well-known and frequent cause, the existence of which must be allowed to exercise its due influence in the diagnosis.

Peculiarities of Gesture.—The features and gestures of the patient are oftentimes strongly expressive of mental disease. The muscular system is the bond of connexion between the mental functions of the cerebrum and the external world. It is the muscular system which, obeying the behests of the metaphysical *Ego*, executes its commands, and interprets its desires and its passions. Strictly speaking, changes in the physiognomy and in the vocal articulation must also be referred to this source; but it is convenient to consider them apart, and at the present time to direct attention to those grosser muscular actions which are commonly understood as the postures and gestures of the body. These are generally more pronounced and more expressive in Insanity than in health. In artificial states of society, the sign-language so commonly employed by the savage or the man of nature to express his feelings and his wants, is discontinued; speech is perfected, and articulate or written language becomes the sole medium of intercommunication. Gesticulation, as a means of communicating thought, has been found to be too demonstrative, too simple, and, perhaps, also too true to be convenient for the use of man in that state in which it has even been said by a keen observer, that "the use of language is to conceal thought." But children, savages, and especially the deaf and dumb, converse by the sign-language of gesture; and the

insane man, removed from the restraints imposed upon him by so-called civilisation, returns to the state of the child or of the savage, and expresses his desires and his feelings by the sign-language of nature. The pantomime of the insane is often perfect. It cannot be called acting, since it is real; and hence arises the most frequent cause of failure in attempts to simulate Insanity. The counterfeit madman, acting the part which he assumes with grotesque clumsiness, leaves a wide and easily detected interval between himself and the real lunatic.

In order to describe all the postures and gestures of the insane, it would be necessary to dilate upon all the resources of pantomimic expression. It is, however, unnecessary to enlarge upon this subject, since every member of the human society is compelled to study both the language of gesticulation and that of facial expression, from earliest infancy; and there are few men who do not become adepts in interpreting the signification both of look and gesture. A man who can appreciate the different mental conditions designated by the term sadness, melancholy, despondency, despair, will find no difficulty in the interpretation of the sign-language by which they are outwardly expressed. Sadness he will expect to see manifested by simple repose and quietude of manner; melancholy, by quietude deepening into immobility, with clapsed hands, bowed head, and heavy step, and the desire of solitude; in despondency he will see an exaggeration of all these characteristics, the posture often crouching and bent together, like that of a person suffering from cold; while, in despair, the extremity of mental agony acts as an excitement, and the sufferer is stimulated into action, or he is held rigid in the cramp of intense fear.

A wide difference intervenes between the commencement of Melancholia, in which it may be said of the patient,

> "There was a listening fear in her regard,
> As if calamity had but begun,"

and the extreme of mental agony, which produces reaction, either in the form of the most painful and dangerous excitement, or of concentrated suicidal purpose—"the resolution of despair." The gesticulation of intense Melancholia is often wild and frantic.

It will be needless to detail the various *modes* in which emotion depicts itself, in motion and attitude, in Partial Insanity. This is not different from what occurs when the same emotions are excited

in a healthy brain, or the difference exists only in degree. Pride, anger, fear, sadness, jealousy, and all other passions, find that appropriate and distinctive expression which the language of poetry can alone describe with adequate force and truth. The invariable and intense expression of any one emotion is oftentimes an indication of Partial Insanity.

When the attitude is restless, the motions quick and vivacious, and expressive of various and changeful emotions, a state of Mania or general Insanity is indicated. Melancholia is, on the contrary, known in some of its phases by fixed attitudes and slow gestures; in others, by gestures of earnest supplication and intense dread; or by the reckless wildness, or strained resolution of despair. Imbecility and Dementia are marked by slovenly postures, and by undecided and aimless movements, indicating that both the action and the repose of the muscles are under feeble and inefficient direction. All these details it would be wearisome and useless to dwell upon; but the alienist physician must have his eye open to seize upon their diversities, and his mind apt and prepared to appreciate them. In the early, and indeed in all stages of Insanity, it is often upon the collective evidence of things, individually unimportant, on which the judgment must be based.

The Physiognomy of Insanity.—The extreme distortion of face produced by Acute Mania, or Melancholia in its highest degree, is easily recognised. It may, however, be needful to distinguish it from the expression of cerebral inflammation, or of fever. The distinguishing characteristics of cerebral inflammation attended by maniacal symptoms are, a greater suffusion of countenance; a firm knitting of the brows expressive of intense pain, and a fierce, prominent, and bloodshot eye. It is in meningitis, rather than in Mania, that it may be truly said—"And each strained ball of sight seemed bursting from his head." The patient suffering from cerebral inflammation has a motiveless ferocity of aspect, rarely met with in pure Mania. The stage of effusion in meningitis, and all the stages of some forms of deep-seated cerebral inflammation, in which the meninges are not affected, require to be distinguished from Dementia, rather than from Mania. The history of the case, however, and the affection of the muscular system in phrenitis, will generally render the diagnosis easy.

The aspect of countenance in the delirium of fever is sufficiently different from that of Mania, to afford valuable aid in the

discrimination of these two conditions. In fever, whatever may be the degree of excitement and the amount of delirium, the countenance indicates low emotional force. In the delirium of Mania, on the contrary, the expression of emotional force is highly exaggerated. This difference is very marked in the expression of the eyes and the mouth. Whatever may be the character of febrile delirium, the expression of the eyes is comparatively devoid of meaning; the muscles of the mouth, although relaxed, are devoid of mobility. The muscles of the face, like those of the body in general, are greatly deficient in power and tone; and the features, which are controlled by the facial muscles, are relaxed and without expression. If there is any mobility of the facial muscles, it is tremulous and feeble, indicating want of power; whereas in Mania, the play of these muscles is full of expression and purpose. It is vigorous and tense, and plainly marks a concentration of nervous force. The deepening wrinkles on the face of a patient suffering from the delirium of fever, are the result of emaciation; those which furrow the face of a maniac are to a greater extent caused by the tense contraction of the muscles of expression.

Lavater recommends the student of physiognomy to commence with the insane, because they will afford to his art extreme and crucial instances.

We think that, in this instance, the acute founder of physiognomical science has not displayed his usual clear-sighted perception of the correct order of observation. To commence the study of physiognomy in a lunatic asylum, would be not less impracticable than to study physiology in the first instance by means of pathology. It would have been as irrational to expect that the functions of the lungs could be discovered by the inspection of a piece of hepatized pulmonary tissue, as that the signs of natural expression could be determined solely by the observation of that which is strange and unnatural. It would seem, that, in all departments of investigation, it is right to commence with the study of that which is most normal, simple, and regular; and from thence to proceed to inquiries respecting that which is unusual, and irregular. Notwithstanding Lavater's recommendation to his followers, we much doubt whether he ever himself pursued his physiognomical researches in the wards of a lunatic asylum. His nearest approach to it appears to have been a careful study of the insane productions of the painter Fuseli. He speaks of madness

as an entity, the presence of which may possibly be discovered by some single mark or token in the lineaments. Actual researches in a lunatic asylum would have speedily undeceived him on this point. It may positively be asserted, that any one totally ignorant of the right meaning to be attached to the different expressions of the human face, would find himself more perplexed in the wards of a lunatic asylum than in any other place in the world, because he would find every variety of expression in every degree of intensity, without the existence of circumstances corresponding to, and explaining the physiognomical signs. Our own advice, therefore, to the student of physiognomy, would be the converse of that given by Lavater; and we are prepared to affirm, that no one can become proficient in the recognition of the facial expression of the various forms of Insanity, who has not acquired a considerable amount of physiognomical tact by his intercourse with the sane portion of mankind.

If we may trust the description transmitted to us by dramatists, poets, and painters, the facial expression of Insanity was much more intense in the olden times, then at the present day; and the idea entertained of a madman by the public, is more frequently taken from such descriptions than from personal observations. We have seldom been more amused by the disappointment of a friend, than we were by that of an accomplished gentleman, who has now, for some years, made it his business and his delight to read Shakspeare to the English public. After patiently examining the numerous inmates of the Devon Asylum, he pronounced his opinion that they were all "stale, flat, and unprofitable." Doubtless they were so in his point of view, for he said, "Where is the poetry of madness? I see none of it—no flashing eyes, no foam on the mouth. Why your people are as sober and respectable as a vestry meeting!" It was a great artistic disappointment; but rather flattered than abashed, we admitted that, since the insane had been treated on rational and humane principles, they had ceased to offer the best and most constant examples of exaggerated passion. But even did it continue to exist, the mere expression of intense and uncontrolled emotion would not, in itself, be a symptom of Insanity; for emotion is often both intense and uncontrolled in those who are undoubtedly sane. Since, however, Insanity is, by common consent, acknowledged to betray itself by the facial expression, it

becomes necessary to inquire what are its true physiognomical symptoms.

It would be tedious and unprofitable to dilate at length upon this subject. Its importance, indeed, cannot be easily overrated; but the art of physiognomy cannot be taught in dissertations or treatises. Like the art of judging of the weather, acquired by the mariner and the sportsman, its only school is the wide field of observation. A few principles may, indeed, be laid down, by which observation may be rendered more easy. They are, however, but few, and the exceptions to their application are frequent.

The expression of the physiognomy in a sane person is compounded of intellectual, emotional, and propensive expression. Intellectual expression may be divided into that which is sensational, or perceptive, and that which is reflective, the first is marked by the obvious activity of the organs of sense, especially by that of the eye, and by a certain fixedness of the features, indicating concentrated attention. The reflective expression, on the other hand, is marked by the more or less complete inactivity of the organs of sense, accompanied, however, by the same fixedness of feature, which, in this instance, betokens concentration of attention upon an internal subject. It would seem, that a purely intellectual expression, of either kind, must be unalloyed by traces of emotion. But, on the other hand, a physiognomy indicating the presence of strong emotion, may, nevertheless, be highly intellectual. An ample brow, a clear and steadfast eye, a firm and well-proportioned mouth, so constantly accompany a high degree of intelligence, that they are almost instinctively recognised as the signs of its presence, even although the features may be deeply marked by tokens which indicate the existence of one or more of the passions.

The emotional expression of the physiognomy is not capable of so simple a description and classification as the intellectual. The distinct emotional expressions are as numerous as the emotions themselves. They may, however, be conveniently classified into those which are expansive, and those which are depressive. To the former usually belong the feelings which are generous and honorable; to the latter, those which are selfish and mean. The former are generally accompanied by feelings of well-being, or happiness; the latter, by those of suffering. Some excep-

tions, however, exist. Pity, for instance, is a generous but painful emotion.

The expressional impress of strong animal propensities, or the absence of such expression, is a point of the highest importance. The sensual expression of physiognomy is not much modified by any one prevailing instinct; it is, however, greatly modified according to the presence or absence of intellectual power. Without the latter, the facial indications of powerful and unrestrained instincts often profoundly degrade and brutalise the human face. When, however, they are conjoined with intellectual power, strong propensities often appear to lend force and energy to the character; and by the union of the two, the facial expression is wholly redeemed.

The student of the physiognomy of the insane must, above all things, endeavour to separate and to distinguish the three elements of expression above named, and to estimate the degree in which they severally exist. Having done this, he must bend all his powers of perception and discrimination to the character which prevailing emotion has stamped upon the physiognomy. In persons of placid temperament, and especially in the earlier years of life, the facial traces of emotion may be so slight as to defy the keenest scrutiny. But after the middle period of life, the habitual emotions become stamped in legible characters upon the features of almost all men; and in the rare instances where this is not the case, this fact in itself becomes a key to the character, pointing to an extraordinary absence of passions and desires, or a still more extraordinary control over their external manifestation. Insanity anticipates the effect of years, and prematurely impresses upon the human face the strong characteristics of habitual emotion. In the youthful insane, the facial lines of anger and pride, sorrow and fear, are more deeply cut than in sane persons of advanced years; and in a mature or aged lunatic, they are often displayed in an exaggerated degree rarely observed in persons of sound mind. It will be foreign to the object of this work, to descant upon the minutiæ of physiognomical expression; for these, the student must consult works devoted to the subject, and especially those of Lavater, the astute and laborious founder of the science. It will be sufficient, in this place, briefly to refer to the most obvious physiognomical signs.

When the plicæ of the forehead are longitudinal, regular, and

broad, they indicate a calm and reflective character; when tortuous and abrupt, they indicate the prevalence of angry emotion. The scowl of anger must be distinguished from the heavy brow of melancholy; in the former, the eyebrows are forcibly approximated; in the latter, they simply droop. The various expressions of the mouth and nostrils must be duly estimated. The dilated nostril of pride and scorn must be distinguished from that of fear. The compression of the lips and corners of the mouth, indicates resolution or obstinacy, disgust and aversion; their mobility on the other hand, satisfaction and the amiable feelings. The vivid and changeful expressions of the eye are so subtle, that they will scarcely submit themselves to verbal description; but the steadfast gaze of pride, the languishing look of desire, the thwart glance of distrust, the glare of rage, characteristically express themselves in a manner which it is impossible to misapprehend.

In judging of the insane by their facial expression, the physiognomical characteristics are, in many instances, exactly similar to those observable in the sane; the intensity of expression being frequently exaggerated.

In a great number of cases, however, a remarkable peculiarity is observable in the physiognomy of the insane; this consists in a want of accord in the expression of the different features. This is often remarkable and characteristic, and reminds one of those children's toys, in which the upper and lower halves of painted figures are separable, and capable of being joined in fantastic reunion. Thus, the lower face of an alderman may be added to the upper face of a handsome woman; or upon the simpering mouth of the latter may be superadded the stern brows of a soldier. The effects produced by this amusing toy are only exaggerations of what may be observed in the insane. The expression of mouth often gives the lie to that of the eye and the brow; and while the whole features are full of expression, it is often impossible to designate truly that which is expressed. This is, perhaps, the most characteristic peculiarity of the insane physiognomy, since it is only observed among the insane. It is, however, frequently absent in them; and the patients in whom this peculiarity are strongly marked, are certainly less numerous than those in whom it is absent. Its presence, therefore, as a symptom of Insanity, is of considerable value; while but little weight can be attached to its absence.

Another peculiarity in the physiognomical expression of the insane, is the apparently causeless and motiveless play of feature which is frequently remarked in them. This is only observed in Chronic Mania, and in the earlier stages of Acute Mania; and conjoined with the last-mentioned conditions, it occasions that state of facial expression upon which the popular idea of a madman's looks is founded. These changes, although apparently causeless and motiveless, are not so in reality; they are, indeed, a reflection of those rapid changes in the emotional state, which often exist in Mania.

The physiognomical expression of the insane must be studied with reference to the form of disease. Thus, in Melancholia, the facial expression is emotional; while in Mania, it is emotional and intellectual, and is marked by the characteristics of changeableness and inconsistency above described. In Dementia, on the other hand, all expression has disappeared, the vacant stare and the meaningless lineaments indicating the loss of thought and of desire. It is only necessary, in this place, briefly to advert to the great peculiarities observable in the face of general paralytics—the trembling lips, the drooping brows, the features expressive of a mixed state of imbecility and excitement, the eyes with pupils of unequal size, together afford to the experienced alienist, unquestionable testimony of the existence of this most hopeless of maladies.

The physician who is a good physiognomist (and no physician can practise his art satisfactorily and successfully unless he is so), when introduced to a patient suspected to be insane, must diligently study the features in conformity with the above principles. He will very frequently find his opinion strongly influenced by the impression which the looks of the patient make upon his experienced judgment; and upon this ground alone he will, in numerous instances, be able to surmise, not only that the patient is insane, but the general form of the Insanity under which he labours; at least this will be the case in numerous instances of incipient Mania, in Dementia, and Paralysis. The cases in which the looks of the patient will often defy the scrutiny of the physician, are those of Monomania or Partial Insanity, and of Melancholia. In cases of Partial Insanity, where the delusion or delusions are not of a kind strongly to implicate the feelings, the mental disease frequently leaves no trace whatever on the

physiognomy, and the looks of the patient are exactly those of a sane man. In the earlier and middle stages of Melancholia, also, the physiognomical expression of sadness is often not to be distinguished from that of natural and healthy grief. The extreme anxiety and wistfulness of Acute Melancholia, and the dark shadows of the severer forms of Chronic Melancholia, are, however, not to be mistaken. With the above-named exceptions, the physician will derive invaluable aid from the physiognomical study of his patient. The information thus derived he must immediately turn to account, in the conduct of his interrogation and conversation.

Demeanour towards the Patient.—In observing the patient's expression, demeanour, attitude, &c., the physician will do well to avoid a marked and obvious attention; and in passing from ocular observation to conversational investigation, the more quietly and naturally he conducts himself, the more likely he is to succeed in disarming the suspicions of the patient, and in discovering his real mental state. Much has been written about the manner and mode of address which it is desirable to put on in intercourse with the insane; but many of the insane are themselves acute observers, quick and ready to see through the mask of an assumed manner. A physician, therefore, who feels that it is needful for him to assume towards the insane a manner foreign to his natural disposition, will do well to keep out of their way, and to direct his attention to other branches of professional practice. A quiet and self-possessed manner is most successful with the insane, but it is only successful when it is natural.

Diagnosis of Dementia.—In the mature stages of Dementia, when the patient can neither understand nor answer a simple question, of course interrogation is both unnecessary and impracticable; but in the early stages of Primary Dementia, the task of ascertaining the extent of mental debility is not unattended with difficulty. In this form of disease, there is little in the patient's conduct or demeanour to assist the judgment of the medical man; the physiognomy, indeed, is silly and expressionless; the eyes have a meaningless look, and easily and frequently suffuse with tears; and a vacant smile plays upon the lips. The features, however, are often fixed in meaningless apathy. In this form of disease, the mind suffering from deprivation and not from aberration of function, it becomes needful only to

test the degree in which the functional power has been lost. This must be determined by testing the three fundamental functions of mind—namely, those of attention, memory, and comparison.

The inattention of Dementia is widely different from that of Mania. When brought to the test of repeating any statement, madness "gambols" from re-wording the matter. Dementia does not gambol; it halts, or stands stock still. The fault of attention in Mania arises from the "thick crowding fancies," which prevent the mind from dwelling upon any one object in a manner to fix the attention. An object is seen clearly, although but for a moment. In Dementia no object impresses a distinct idea upon the perception, although the attention may have dwelt upon it for some length of time. The test devised by the English law for Idiocy, namely, the appreciation of number, is a useful one in the early stages of Dementia. It is remarkable at how early a period of the malady, patients lose not merely the power of understanding anything like an intricate account, but the value of very simple numbers. To this fact are to be attributed many instances of reckless expenditure and apparent prodigality in persons becoming insane. Other instances of this kind arise from aberration of the judgment, and loss of power to estimate consequences; and others from a morbidly active state of desire; but in the early stages of Dementia, in the Dementia of old age, and in Imbecility, the patient becomes an easy prey to designing persons, from the weakened power of attention, and the consequent inability to estimate the value of money.

The power of memory depends, in a great degree, upon that of attention. A thing which is well observed is well remembered; while circumstances to which the attention has not been energetically directed hold in the memory but a feeble and treacherous place. It is partly to this that must be attributed the well-known peculiarity in the memory of persons suffering from the Dementia of old age. The vivid impressions of early life are easily recalled, while the recent ones of declining age leave no traces in the mind. It must not, however, be supposed that the powers of the memory can only be enfeebled in this secondary manner. The memory is itself a cerebral function, and so purely is it a cerebral function, that some metaphysicians, who strenuously deny this attribute of all other mental powers, concede it in regard to the memory, and

in this manner endeavour to establish an alliance, or a compromise, between the physiological and the spiritualist theories of the mind. The memory, then, is without question a function of the brain, and cannot fail to suffer injury from any lesion to which its organ is subjected. It is, as we have seen, impaired in a secondary manner, from enfeeblement of the attention. That it is also primarily injured in Dementia, is proved by the fact, that when peculiar circumstances have excited the attention to energetic exercise, and have occasioned passionate emotion, the memory, although in a less degree, is still feeble and treacherous.

It is remarkable that, in those forms of cerebral lesion which are characterised by enfeeblement and decay of the mental functions, the highest of these functions, namely, the judgment, suffers to a much less extent than either the attention or the memory. The fact is abundantly verified by experience, that in persons whose general powers of mind are in an advanced stage of decay, the judgment often remains sound, as far as its condition is capable of being investigated. It is difficult to bring the comparing faculty into play, because it is difficult to present to it ideas representing the things to be compared. The attention and the memory having failed, the scales of the mental balance remain empty; but if, by adroit management, these scales can be loaded, it is found that the adjustment of the beam remains correct. This remarkable circumstance forms a point of distinction between simple Dementia and Mania. In Mania, attention and memory are often vigorous, but the comparing faculty is deranged.

In Dementia the emotional functions suffer, but in a less degree, and at a later period than the primary intellectual functions of the mind. In the cerebral decay of old age, which may be taken as the type of Dementia, the nobler and more complicated emotions of manhood give way to those of a more rudimentary character; and the state of mind, from this change, derives its popular name of "second childhood."

When ambition, patriotism, love, and friendship have suffered decay, and the ennobling influence of the intellectual faculties has been abstracted from the character, the simpler kinds of emotion which have become habitual during life, exercise a more open and unrestrained influence upon the individual. It is the habitual influence of these kinds of emotion which especially forms what is

called the disposition. If this has been what is called good, the Dementia of disease, or of "second childhood," will be placid and amiable; if, on the other hand, the habitual emotions have been of the egotistical and irascible kind, the state of Dementia will be marked by anger easily roused, or fretfulness, and by a discontented selfishness. In persons of really evil disposition, the mental decay of old age is characterised by a hideous display of malignant feeling. The proverb says that very old women are either angels or devils.

It may be laid down as a general rule, that in pure Dementia the sexual instinct is greatly weakened or destroyed. This will be found to be the case even in instances where indecent conduct is observable. Such conduct, on a strict scrutiny, will be found to arise, not from activity of the instinct, but from the loss of modesty and from inability to appreciate the rules of decorum. In those cases of senile Insanity which are attended by lascivious conduct, the form of mental disease more nearly approaches that of Mania than that of Dementia. There is a mixture of the two states; but the maniacal element preponderates.

Primary Dementia.—There is, perhaps, no form of mental disease in the early stages of which it is more difficult to form a decided opinion than in primary Dementia. This difficulty arises from the frequent absence of several indications which render valuable assistance in the diagnosis of other varieties of Insanity. The demeanour and conduct of the patient are often very slightly, if at all, changed; there is nothing strange in his appearance, no *égarement* in look or manner. The facial expression, indeed, is often weak and undecided in conversation; the attention is found to be feeble, but not wandering; but the earliest and most trustworthy symptom is loss of memory. The physician will often find that, in the course of conversation, the patient forgets what he has been talking about a few minutes previously, and that he has not the slightest recollection of the events of the previous day. This form of disease very rarely comes on without a decided exciting cause; and the opinion of the physician will often be facilitated by testimony as to the existence of such a cause, and enfeeblement of the faculties resulting from, and speedily following it. The most frequent causes of primary Dementia are injuries of the head and attacks of apoplexy; the causes next in frequency are fever and emotional disturbances, especially grief. It may be

thought wrong to classify Dementia as primary, when it follows apoplexy. Classifications of this kind, however, derive their value from their utility; and it is convenient to classify as primary all cases of Dementia which are not the sequelæ of other forms of mental disease.

In primary Dementia, the difficulties of the physician are increased by the absence of any form of delusion—namely, of illusion, hallucination, or delusion proper.

In many instances the most experienced physician will not be able, conscientiously, to give a decided opinion in the early stages of this malady. Its progress, however, is generally certain; the attention becomes more and more enfeebled, until even the sensational indications of the bodily wants cease to be observed, and the patient, if neglected, lapses into what are called dirty habits. In its mature stages, this form of disease is recognised with the greatest facility.

Secondary Dementia.—We restrict the term consecutive, or secondary Dementia, to that form of disease in which the mental faculties are left enfeebled and decayed by the subsidence of the more acute forms of Insanity. Dementia of this kind differs in various respects from Primary Dementia. The most remarkable point of difference is occasioned by the intermixture of the primary disease with its results. Dementia of this kind is compounded of the remains of Mania or Melancholia, and their effects. There is an extremely wide range in the degree and manner of this intermixture; a concrete case may present all the features of Mania, with the slightest possible indication that the cerebral functions have passed into a state of permanent decay. Another case, on the other hand, may present the utmost degradation of mental power, with but slight remaining traces of maniacal excitability or perverseness. In this variety traces of delusion are common. In the transition of Mania into Dementia the character of the prevailing delusion not unfrequently undergoes a change; the delusive ideas become less complicated and imaginative. The existence, however, of delusion of some sort is very common, although it is more difficult to detect, in consequence of the patient having lost much of his communicativeness and demonstrativeness. Another feature which distinguishes secondary from primary Dementia, and which is still more frequent than delusion, is the continuance of an exaggerated state of emotional feeling. It is,

unfortunately, a matter of daily observation in the wards of a large lunatic asylum, that when the storms of Mania have permanently injured the functions of the brain, painful or malevolent emotions frequently survive the decay of the intellectual faculties. It is this fact which renders the facial expression of so many chronic lunatics at once stupid and vicious; the features continue to be distorted by anger, hatred, or fear, long after they have ceased to be illuminated by the rays of reason.

Under the humane and judicious treatment which now prevails in lunatic asylums, this peculiarity in the physiognomy of secondary Dementia is infinitely less frequent and less pronounced than we remember to have seen it, from ten to fifteen years ago; or than is delineated in the engravings of Morison or Esquirol, and to a still greater extent in the paintings of Hogarth and Fuseli.

Even in Cibber's well-known statue of Dementia, while the tongue is lolling from the mouth, in the very extreme of intellectual degradation, there is still a fierce scowl upon the brow. This statue, which is reported to have been copied from the actual condition of a lunatic in the wards of Bethlem, a man who had been Oliver Cromwell's porter, represents, in an exaggerated degree, the peculiarity of facial expression to which we desire to direct attention. Cibber, however, would not, at the present day, find it easy to procure such a model, faithfully and painfully expressing, not only the effects of disease, but those of cruel and brutal treatment.

The entirely different treatment which now prevails has not changed the pathological fact, that in Secondary Dementia the emotions survive the intellectual powers. It has, however, altered the character of these emotions; and, in a greater number of instances, it has succeeded in substituting amiable and agreeable ones for those which are painful and malevolent; and in other instances of success less complete, it has, nevertheless, mitigated the intensity of feelings of the latter character. The most indubitable testimony with which we are acquainted, of the immense change which has taken place in the condition of lunatics, is afforded in the entirely different facial expression of lunatics, as they were painted and described by our forefathers, and as they are observed by ourselves. The old treatment converted the insane patient into a ferocious, malevolent, and repulsive being, who, in his turn,

excited the horror and disgust of those who trembled to feel themselves his fellow-men.

To return from this digression to the practical question of diagnosis, the physician will find his task greatly more easy in the secondary than in the primary form of Dementia; the history of the case will rarely fail to afford him substantial grounds for the formation of a decided opinion. The history of a prolonged or of a violent attack of Mania, followed by a gradual change of symptoms, the principal feature of which was the substitution of enfeeblement for exaggerated activity of the mental functions, can rarely leave doubt as to the nature of the case. If, however, the physician is unable to obtain any history of his patient—if, for instance, the patient should be a wandering lunatic, without relations or friends to give an account of his antecedents, the physician will, nevertheless, find little difficulty in recognising the existence of secondary Dementia. The feeble power of attention and memory will be observed as in the primary form of the disease. But, in addition to this, the physician will mark the strange want of accord between the intellectual and emotional expression of the physiognomy; and by following this clue, he will rarely fail, by interrogation, to elicit those traces of the earlier mental disease which combine with mere intellectual debility to form the peculiar disease in question. He will discover various emotions capable of being easily and unreasonably excited; he will find anger or affection, confidence or distrust, devotion, pride, or rapacity, excited without motive, or by such as to a sane person would be altogether insufficient. Moreover, he will, in numerous instances, be able to discover the existence of delusions; delusions, indeed, which form but a pale reflex of those absurd convictions which carry the monomaniac or the maniac along with irresistible force; but delusions, nevertheless, absurd ideas the result of disease, and the proof of its existence.

When the countenance of a demented patient is in repose, there is frequently no trace of mental infirmity upon it. But, when the attention is roused by a question or an incident, the idiotic expression becomes at once apparent; this sudden change of facial expression,—from that which might belong to a sane and intelligent man, to that which characterises low Idiocy—is a good diagnostic mark of Dementia. In true Idiocy the mental defect is impressed upon the countenance at all times.

Diagnosis of Mania.—Mania is the term applied to that large class of mental disorders in which the functions are in a state of excitement, and their mutual dependence and proportion disturbed. It embraces forms of disease so widely apart from each other that, in treating practically of its diagnosis, it will be essential to make some classification. For practical purposes it will be sufficient to distinguish its forms into those of *Acute Mania,* comprising cases which present recent and active symptoms; *Chronic Mania,* in which acute symptoms have given way to others of a more tranquil and permanent kind; and *Incomplete Mania,* corresponding to the "manie raisonnante" of the French, and embracing those anomalous and undeveloped forms of mental disorder in which defective power of volition and morbid propensities are prominent symptoms.

Acute Mania.—The recognition of Acute Mania is as easy as that of Imperfect Mania is frequently difficult. Few diseases have their character so legibly stamped as that of raving madness.

The physiognomy of Mania has already been commented upon at sufficient length. The expression of wildness, distraction, or anger, is often varied with that of mischief, lasciviousness, or fear, and strong emotional excitement of some kind or other is rarely absent from the facial expression of the maniac.

The physical symptoms are by no means constant, and are of little value diagnostically; the face is pale or flushed, the skin dry and harsh, and the bowels constipated, the pulse accelerated, the tongue bearing a whitish fur, the breath offensive, saliva increased and frequently spit out, the urine loaded with phosphates &c. But any or all of these symptoms may be reversed, and any, or all of them, may, and often do occur in diseased conditions where there is no affection of the mental faculties. In the treatment of Insanity, all the signs of physical disturbance merit careful attention, but in the diagnosis their value is exceedingly small. Almost invariably, in Acute Mania, there is loss of sleep, a diagnostic symptom of the utmost value between the real and the feigned disorder. The acute maniac will often pass five or six days without any sleep, and five or six weeks with only three or four hours of sleep at intervals of several days. An impostor, feigning the violent form of madness, cannot refrain from deep and regular slumber, which falls upon him with the more certainty as he exhausts himself in his efforts of spurious fury. The impostor, moreover, cannot feign

the physiognomical expression of Acute Mania, or at all events, he cannot maintain it for more than a few minutes. A man may imitate frantic gestures, or shout gibberish, without difficulty, so long as his physical strength enables him, but he cannot maintain any look expressive of strong emotion unless he has practised the histrionic art with great care and success, for while the voice, muscles, and those of the limbs, are readily exercised in sole obedience to the will, those of the countenance are too much the involuntary exponents of emotion to carry the mask of deception without constant effort or practised skill. Conversation, properly so called, is always difficult, and often impossible, with an acute maniac. In many cases the mind is so much occupied by delusive ideas, that only a few disconnected words can be elicited; more frequently, however, Acute Mania is accompanied by garrulity; and this is especially the case when the exaggerated emotions are cheerful and expansive. This form of Mania often exists without prevailing delusion, and the patient rambles on in his talk through a strange medley of boasts, promises, and threats, oaths and obscene remarks, in a manner which renders it easy to understand why M. Falret should suppose it possible that in this condition there is a spontaneous creation of ideas.

The restless and ever changing condition of the mind expresses itself as strongly in action as in vociferation and wild words. The patient is always in movement, running, dancing, gesticulating, embracing, or fighting with those around him, displacing or sometimes breaking furniture, and evincing in manifold ways the restless activity of the muscular system. It is probable that this impulse to action is not entirely dependent upon the condition of the brain. The nervous system generally is in a state of excitement, causing an incontrollable desire to expend its energies in excessive muscular action. This restlessness, however, is not met with in all cases. In gay Mania, in Mania with fear and anxiety, it is common; but in morose and sullen Mania the patient will often retain one position for a considerable time. But even under such circumstances, the clenching of teeth and hands, and the half involuntary movement of the limbs, evidently restrained by the will, indicate strong impulse to action.

The condition of the mental faculties, in Acute Mania, presents the widest differences. In many instances, no trace of delusion can be discovered in a patient who is vociferating, swearing, laugh-

ing, reproaching, in constant movement, and without sleep. Such a patient's answers and remarks are sometimes found to have a certain kind of cleverness and shrewd appreciation of all that is taking place. The attention skips from object to object with *choreic* rapidity and abruptness, causing exaggerated and absurd emotional states, but, in many instances, not falsifying the judgment. In most instances, however, delusions and hallucinations exist, and the task of detecting them is not difficult; for in this form of disease the patient is so demonstrative that he usually dins his delusion into your ears.

Hallucinations appear to be more frequent in Acute Mania then delusions proper, and also more frequent than they are in any other form of Insanity. Hallucinations of sight are most common. In Acute Mania, patients see the Deity, angels, and devils; hear music and voices; and have a hundred hallucinations of the same sort, far more frequently than in other forms of Insanity.

Little address is required on the part of the physician, to make himself acquainted with the intellectual and emotional perversions of these demonstrative patients, or to decide as to the existence of disease. The conditions with which it is possible that Acute Mania may be confounded, are drunkenness, delirium tremens, the delirium of fever, and inflammation of the brain and its membranes.

To distinguish Acute Mania from the ordinary cases of excitement from intoxicating liquors, it will be enough to observe, that the drunkard can be recalled to a sense of his position, that his excitement soon passes into drowsiness and tendency to coma, and that he has no real delusions or hallucinations. Frequently also the stomach is deranged, and the intoxicating liquid can be smelt in the breath. The mental symptoms of ordinary drunkenness are mild and pale when contrasted with those of Acute Mania. But there is a form of drunkenness in which the distinction from Mania is difficult, and not always possible. Persons who have suffered attacks of Insanity, sunstroke, inflammation of the brain, or wounds of the head, are liable to a train of symptoms when they become intoxicated which are identical with Acute Mania. Drunkenness of this kind is not to be diagnosed from the disease under consideration; it is, indeed, the disease itself, so long as it lasts. The symptoms often, but not always, subside

when the alcoholic stimulus has passed out of the system. The cause of the maniacal symptoms, and their short duration, are the only indications that this condition is a dangerous variety of drunkenness.

Another variety of delirium from drink is only to be distinguished from Mania proper by a knowledge of its cause. It is the delirium which sometimes comes on at the termination of a long debauch. When a man has been drunk for many successive days, a form of active delirium occasionally supervenes, in which the symptoms resemble those of Mania, and not those of delirium tremens. This delirium is caused by excessive alcoholic stimulation, and not by the withdrawal of stimulus, as in delirium tremens. The countenance and conjunctiva are congested, the pulse is full, the skin is hot, and the delirium is loud and violent. There are no symptoms so far as we are aware by which this form of delirium can be distinguished from Acute Mania, but it runs a shorter course.

The diagnosis between Delirium Tremens and Acute Mania can be made by observing in the former the peculiar muscular tremor, from which it derives its name, and the more remarkable and distinctive feature presented by the character of the illusions and hallucinations, which are always fearful, and of a pursuing and persecuting character. Snakes are about the bed, robbers are breaking into the house, fiends are getting in at the window or down the chimney. Or if there is no decided hallucination of this kind, there is an anxious desire to do some particular thing, generally connected with the ordinary occupation of the patient. In delirium tremens the skin is cooler and more clammy, the pulse is more feeble, the tongue more white and tremulous, than in Acute Mania.

The diagnosis of meningitis from Mania is made by observing in the former, premonitory rigors, and excessive cephalalgia, followed by acute febrile disturbance of the organism, a bounding pulse, a hot and dry skin, a prominent and bloodshot eye, a contracted pupil with a great intolerance of light, accompanied by a fierce delirium, in which illusions of the senses are common. In Acute Mania many of these symptoms are often absent, and those which do present themselves have much less intensity than in cerebral inflammation. In cerebral inflammation, the tendency to muscular exertion, so common in Mania, is absent, or only demon-

strates itself in brief actions instigated by the delirium. The emotional disturbance is less remarkable than in Mania. The affection also tends rapidly to terminate in recovery or in death. In the latter case convulsions supervene, the pulse becomes rapid and small, the pupil dilates, the skin is covered with clammy sweats, and the vital powers gradually fail. Death may also come on more rapidly from coma. This rapid sinking is not observed in Mania. Some patients do indeed die suddenly from what is called maniacal exhaustion, the immediate cause of death being syncope; but even in these cases the course of the disease is more prolonged than in fatal instances of cerebral inflammation.

The only forms of mental disease for which Acute Mania may be mistaken are Acute Melancholia, and the excitement which occurs in some instances of General Paralysis.

Between Acute Mania and Acute Melancholia no distinct line of demarcation can be drawn. The domains of the two diseases overlap so much, that in practice, cases not unfrequently present themselves which may with equal propriety be referred to the one or to the other; these cases we may call Acute Mania with melancholic depression, or Acute Melancholia with maniacal excitement. The typical forms of the two diseases are, however, sufficiently distinct. In Acute Mania the emotions are expansive, and when not decidedly gay they tend to anger rather than to sorrow, and intellectual perversions are common; but in Acute Melancholia the prevailing characteristics are self-depreciation, terror at some supposed evil which is present, or dread of something which is impending. The thing feared may or may not have an existence; if it has no existence, the fear of it is a delusion; but beyond this Acute Melancholia is frequently unattended by any perversion of the intellectual faculties.

The maniacal excitement which attends General Paralysis is distinguished by the muscular tremors of the tongue and lips, by the catch of the voice, and the other symptoms which accompany this insidious disease; and also by the peculiar nature of the delusions, which, in the great majority of instances, run upon the possession of vast wealth, power, strength, or rank. The excited state of General Paralysis, which may be mistaken for Acute Mania, rarely lasts more than from ten to thirty days. After that time the excitement subsides, while the delusions and the muscular symptoms remain, and the nature of the disease becomes apparent.

Chronic Mania has to be diagnosed from malingering, from eccentricity, or from sanity. There are no non-mental diseases for which it can be mistaken. The symptoms of Chronic Mania present themselves in such infinite variety, that it is extremely difficult to round them within the compass of a description which will be sufficiently brief for the purpose of comparison. Chronic Mania, in the sense in which we use it, as distinct from incomplete Mania, is in most instances the remaining result of the more acute form. It represents the rudderless and shattered state of the vessel after the tornado of raving madness has swept by. The wreck is left in every variety of condition; sometimes with sail enough to keep her head to wind; sometimes she lies upon the waters, a log, in the helpless state of consecutive Dementia. In Chronic Mania of this kind there is always more or less of Dementia; and the loss of mental power is to a great extent diagnostic between Chronic Mania, which is consecutive upon Acute Mania, cerebral inflammation, or typhus, and Chronic Mania which has resulted from moral shocks or from physical causes less injurious than the above to the organic integrity of the brain. Chronic Mania, which has not passed through the acute stage, frequently presents a remarkable vigour of the intellectual functions, in so far as they are not affected by delusion. Patients with this form of disease not only retain the perceptive faculties in all their activity, but the memory, also, is found to be tenacious; and even the judgment, on matters unconnected with the delusive opinions and perverted emotions peculiar to the case, may be found to be not greatly affected. It will be asked, how such a case is to be distinguished from one of Monomania? and, in truth, the distinction between the two is not very observable in practice; though, if we accept the current descriptions of Monomania, the distinction would be easy. It is unnecessary to embarrass our present subject by discussing the existence of book-drawn Monomania; for the present purpose it is sufficient to observe, that primary Chronic Mania runs insensibly into the nearest approach to Monomania with which we are acquainted. In some cases of Chronic Mania the delusions are numerous; in others they are few; in others there is but one; one, however, indissolubly connected with other grave lesions of the mental powers. There is always grave emotional perversion.

Incomplete Primary Mania is often to be recognised by the

existence of a decidedly abnormal state of the emotions and sentiments, without discoverable intellectual lesion. This symptom is more constant and valuable than any other; the difficulty lies in proving the abnormality. When friends and relatives are detested and abused, and the objects of natural affection are overwhelmed with invective, when all things sacred are made the subject of blasphemy, it is easy enough to point to the moral perversion which has taken place. But the slighter shades of perverted emotion require all the adroitness of the experienced alienist to detect. Absurd opinions are generally coexistent and allied with perverted emotions. Very frequently they appear to be consequences of the former. It is not easy, however, to prove which is the first phenomenon in the series of causation. When a mother, for instance, detests her child, and believes herself to have been poisoned by it, it is not easy to demonstrate whether the false belief arises from the perverted emotion, or the contrary. However this may be, perverted emotions are constant and delusions proper are frequent symptoms in Chronic Primary Mania. Hallucinations and illusions are more rare. Hallucinations present themselves more frequently in consecutive Chronic Mania, where the intellectual functions are permanently weakened.

These are general rules, to which, however, exceptions are by no means infrequent. One important exception is presented in the frequency, in primary Mania, of hallucinations referable to the patient's own body, and dependent upon peculiar states of pain, or palsy of feeling, owing to abnormal conditions of the nervous system or of the viscera; as when living animals are supposed to occupy the various cavities of the body, in consequence of sensations of pain and fluttering, or irregular internal movements, caused by chronic inflammations or cardiac palpitations, or intestinal flatulence, or cramps, or when various parts of the body are supposed to be converted into inanimate substances, in consequence of palsied sensation.

The only disease we have known to be mistaken for this form of Insanity is exaggerated *Hysteria*. The diagnosis must be made by observing the sex, age, constitution, and character of the patient, which, to the experienced physician, will generally reveal the nature of hysterical attacks, whatever form they may assume. They do sometimes assume the form of Mania, with violent general

excitement, and strongly pronounced moral perversions. These may be looked upon as the proper symptoms of the disease; but hysterical patients have been known to feign delusions and hallucinations, just as they will feign everything else. The hysterical type of the patient, the paroxysmal nature of the excitement, and the contradictions in which she may be detected when closely examined upon the circumstances of her supposed delusions, will rarely fail to detect the comparatively harmless nature of the affection. This will be the more easy if the effect of remedies appropriate to hysteria can be tried. But hysteria does sometimes pass into real Mania, and carry with it some of its own peculiarities. In all the instances in which we have observed this transition, there has been a strong hereditary tendency to Insanity. The transition has been marked by an obvious febrile crisis, and by that most important symptom of early Mania, loss of sleep. The medical man must therefore exercise due caution, in avoiding to pronounce any case to be purely hysterical because it has once been so. If, in a young woman of hysterical temperament, the perverted sentiments and desires, the strange conduct and excited demeanour, pass into a febrile stage, accompanied by a rapid pulse, by loss of sleep, and by delusion or hallucination, hysteria has passed into Mania. Patients are even met with in whom periods of hysterical and maniacal excitement alternate; and it is not difficult to distinguish in them the period when the nervous disorder presents itself, and when it yields to the more serious cerebral disease.

The Diagnosis of Mania from Sanity, or, in plainer terms, the recognition of Mania, is sufficiently simple when all or several of its symptoms are present in a marked degree; but when only few of its symptoms exist in a doubtful and incomplete form, its recognition is arduous in the extreme. If the physician is fortunate enough to obtain a history of his patient, his difficulties are greatly lessened. For instance: suppose a case in which the physician is informed that the parents of the patient were insane before his birth,—that he had had a fever, a blow on the head, or a severe disappointment, and that, soon afterwards, he had become delirious, with loss of sleep, and violent conduct, and, in fact, had had an attack of Acute Mania; that, on the subsidence of these symptoms, he had passed into a more tranquil condition, and had recovered his bodily health; if, upon this history, the physician found his

patient with the physiognomy of Mania, the furrowed countenance, wild eye, and discordant expression of the several features; if he found, on interrogating him, that he had unreasonable antipathies to his friends, that he had an extraordinary state of feeling and sentiment,—intense pride, for instance, or obstinacy, or selfishness or vanity; if he found that his sentiments had changed,—if, for instance, from being religious and moral, he had become impious and dissolute; if, from being benevolent and truthful, he had become cruel, base, and false; if, moreover, he found that his conduct was restless, and his actions extraordinary; and if, in conversation, he found that the powers of concentration and of memory were deficient, he would scarcely want the further evidence of actual delusion, to drive home and clench the opinion of his Insanity. But, if all cases were as plain as the one here supposed, no skill would be required to form a judgment upon them. Ploughmen and blacksmiths would be sufficient to decide that such men were insane. The opinion of the physician is really required in difficult and balancing cases, and for these no positive rules can be laid down, like those of a code of maritime signals. The history of the patient may be wanting, or may only be obtainable from ignorant persons, who cannot describe it for want of observation; or from prejudiced persons who will not describe it truly for lack of honesty. The physician will then be thrown entirely upon his own resources, and compelled to determine solely from the appearance, conduct, and conversation of the patient.

It is rare, indeed, to meet with a person suffering from any form of Mania who does not bear some impress of his disease in his countenance, his bearing, and his demeanour. The characters may, perhaps, be dubious, and almost illegible to the inexperienced eye; but as it is the purpose of these pages to direct the observation and assist the discrimination of such an eye, we shall mention many of these *slight characteristics*, at the risk of appearing tediously minute to the man of experience.

The physiognomical symptoms have already been commented upon. The principal characteristic, in many of the patients, is the peculiar want of agreement in the expression of the features. In others, the fixed expression of some intense emotion is remarkable; of defiant pride, of sullen obstinacy, of smirking vanity, or of leering sensuality. A twitching of the orbicularis, or of other facial muscles, is not uncommon. In a great many cases of

Chronic Mania the hair becomes harsh and bristling,* and the

* On the debate in the House of Lords on the Lunacy Regulation Bill, the Lord Chancellor Westbury quoted and criticised the above paragraph in a manner which needs some explanation for our still retaining it in our text. The Lord Chancellor indeed referred to the quotation as "from a work of great authority," and "written by authors of great experience and eminence." And we are free to admit that we ought to feel complimented that our work was selected and preferred by him to bear the brunt of his criticism.

The fitting opportunity has now come for our reply.

The Lord Chancellor was engaged in supporting the position which he had taken in the debate upon his bill, "that the introduction of medical opinions and medical theories into this subject has proceeded upon *the vicious principle of considering insanity as a disease;* whereas the law regards it as a fact which can be ascertained in like manner as any other fact. Therefore we empanel a jury of ordinary men, and call upon them to try the question by proof of the habits, the demeanour, the conversation, and the acts of the alleged lunatic."

But we must ask,—Is not the existence of disease a fact? and is not the fact of its existence tried by juries of ordinary men, but upon medical testimony, even when the question at issue is admitted to be the fact of disease, as in compensation trials for railway injuries, and in trials for concealing disease from Insurance Companies?

However, to support his proposition, the Lord Chancellor quoted the above paragraph from our text as a striking example of the folly of which medical writers on insanity were capable, and he concluded with this appeal—"*Now, my Lords, are these trifling rules to be allowed to prevail upon inquiries of such moment?*"

Our reply is, that nothing was further from our intention or expectation than that the observations commented upon should be considered as rules which ought to prevail in inquisitions of lunacy. On the contrary, we especially guarded our readers from attaching too much importance to them by the very intelligible warning that "*we shall mention many of these slight characteristics, at the risk of appearing tediously minute to the man of experience.*"

No keener dialectician than Lord Westbury ever adorned the woolsack, and we can only suppose that this qualifying paragraph had escaped his notice, for, otherwise, we do not think that he could have mistaken slight characteristics for prevailing rules. But we must add, that these slight characteristics were scarcely so unimportant as the Lord Chancellor led his august audience to believe. In science no fact is unimportant if its relations can be accurately ascertained, and the slight characteristics were noted as facts in a medical treatise, not as evidence in a court of justice.

Although we should certainly never have thought of referring to the above slight characteristics as proofs of Insanity, or even as evidence of its existence, which ought to have weight in a court of justice, are they of so little importance that they ought not to be noted in a medical treatise? Let us consider one or two of those which were most severely commented upon. Nothing, of course, could be more easy to Lord Westbury than to represent in a ridiculous light the assertion that in lunacy "the hair becomes harsh and bristling," and that consequently every one with harsh and bristling hair was liable to be considered a lunatic. But Mr. Darwin, who is thought to know something about the value of scientific evidence, in his recent work on 'Expression of the Emotions,' notices very carefully and gives an engraving of this symptom of strong emotion so frequently met with in the insane. Mr. Darwin, after illustrative quotations from Shakespeare, proceeds:—"As I did not feel sure whether

writers of fiction might not have applied to man what they had often observed in animals, I begged for information from Dr. Crichton Browne with respect to the insane. Dr. Browne remarks that the bristling of the hair which is so common in the insane is not always associated with terror. It is perhaps most frequently seen in chronic maniacs who rave incoherently and have destructive impulses; but it is during their paroxysms of violence that the bristling is most observable. The fact of the hair becoming erect under the influence both of rage and fear agrees perfectly with what we have seen in the lower animals. Dr. Browne adduces several cases in evidence. Thus, with a man now in the Asylum, before the recurrence of each maniacal paroxysm, 'the hair rises up from his forehead like the mane of a Shetland pony.' He has sent me two photographs of two women taken in the intervals between their paroxysms, and he adds with respect to one of these women, 'that the state of her hair is a sure and convenient criterion of her mental condition.' I have had one of these photographs copied, and the engraving gives, if viewed from a little distance, a faithful representation of the original, with the exception that the hair appears rather too coarse and too much curled. The extraordinary condition of the hair in the insane is due, not only to its erection, but to its dryness and harshness consequent on the subcutaneous glands failing to act. Dr. Bucknill has said that 'a lunatic is a lunatic to his fingers' ends;' he might have added, and often to the extremity of each particular hair.

"Dr. Browne mentions an empirical confirmation of the relation which exists in the insane between the state of their hair and minds, that the wife of a medical man, who has charge of a lady suffering from acute melancholia, with a strong fear of death for herself, her husband, and children, reported verbally to him the day before receiving my letter as follows:—'I think Mrs. —— will soon improve, for her hair is getting smooth, and I always notice that our patients get better whenever their hair ceases to be rough and unmanageable.'

"Dr. Browne attributes the persistently rough condition of the hair in many insane persons, in part to their minds being always somewhat disturbed, and in part to the effects of habit, that is, to the hair being frequently and strongly erected during their many recurrent paroxysms. In patients in whom the bristling of the hair is extreme, the disease is generally permanent and mortal; but in others, in whom the bristling is moderate, as soon as they recover their health of mind, the hair recovers its smoothness."—'Expression of the Emotions,' by Charles Darwin, F.R.S., pp. 295—297.

To a still greater extent, in the case of shrivelled ear, might we oppose the observations and inferences of men of science to the conclusions of the great lawyer. It is not improbable that Lord Westbury has never seen an instance of blood tumour of the ear ending in shrivelling in a lunatic. We have seen this curious phenomenon scores of times, and have never seen it except in a lunatic. It was first described by the eminent French physician, Ferrus, and its occurrence among the insane has been admitted, and its causation and import discussed by the most experienced alienists in all countries where there is a medical literature, and only a person ignorant of the subject could doubt its existence as one of the physical signs of insanity.

It is somewhat remarkable, and perhaps gratifying, that the Lord Chancellor should have restricted his criticism of our diagnosis to the physical signs, and have left unquestioned our account of the mental symptoms of Insanity, upon which alone we, of course, should rely as proofs of the disease. May we fairly assume from this that Lord Westbury did not find the opportunity of dissenting from our opinions upon this infinitely more important branch of the inquiry? The great judges of the realm have been accustomed to pronounce upon and define the mental boundaries of

skin of the scalp becomes loose. The medical man should never omit to examine the ears. The discovery of a shrivelled ear often tells an undeniable tale of profound mental disease. Altogether, the effect of Mania, and, indeed, of all forms of Insanity, is to stamp upon the patient a remarkable degree of ugliness; and there is no symptom of returning mental health more trustworthy and more pleasing than the restoration of personal beauty. Among the female patients of large lunatic asylums, not a single good-looking woman is often to be seen, except those who are convalescent, or those who are enjoying a prolonged interval of tranquillity and amelioration.

The demeanour of the patient is often like the expression of his face—defiant, or sullen, or restless, or each alternately; or it is the statue-like quietude of absorption; or it is careless or negligent. Sometimes the head, or some other part of the body, is twitched convulsively; sometimes the hands are rubbed together perpetually, or the patient stands on one foot at a time, or in walking he slithers his feet, or he crouches or kneels, or indulges in some other bizarre movement. Rarely, indeed, is the demeanour of a patient suffering from Primary or Chronic Mania exactly that of a sane man. The condition of the patient's clothes is rarely devoid of significance; they are frequently ill arranged and dirty; they are also frequently strange, from some attempt on the part of the patient to impress upon them some peculiarity—for instance, a military or clerical character; or they present a studious coarseness and simplicity; or, on the other hand, an excess of ornament.

The physician passes from the observation of the signs to the active investigation of the mental state, by questioning and conversing with the patient. In most cases it is well to commence by drawing the patient into a conversation on the most ordinary and natural topics. These will serve to test his power of attention, and to establish some confidence between the parties. If the physician is quite without clue as to the state of the patient's mind, he will do well to observe some order in his examination thereof. By so doing he will save time and trouble;

Insanity—the absence of delusions, for instance, and the power of the will to resist crime—boundary marks, however, which have had to be shifted from time to time under the better information of medical experience. The existence and value of physical signs are still more within the domain of the physician.

and should the delusions be limited in number and extent, he will be more likely to avoid overlooking them. The delusions which are unconnected with the patient's individuality are not frequent. Hence it arises that, if the physician can induce the patient to enter regularly into a description of his own sentiments and opinions respecting himself, he will seldom be left long in the dark respecting the nature of the delusive ideas. This will especially be the case if the physician has the forethought and the tact to lead the patient to talk about himself, in his various relations to his property, his friends and relatives, his business, his health, his ambition, and his religious hopes. If the physician will range and quarter the extent of his patient's mind, as a well-trained pointer does a stubble-field, he will rarely allow any delusion to escape undetected. But if he wanders at random, he may expend his labour upon fruitless inquiries. Any order is better than none; but the order of inquiry which would most readily suggest itself—namely, that of examining the state of the mental faculties, one after the other—is not, in practice, the most successful. After testing the fundamental faculties, the attention, the memory, and the judgment, which may be done by ordinary conversation on almost any subject, it will be well to give up the idea of any metaphysical or phrenological system of mind, and to conduct the further examination upon a plan laid down upon the active duties and relations of life. The patient may be led to give an account of his own powers of body and mind, with reference to health, to exercise, diet, and study. Thousands of delusions are entertained by insane people upon these subjects. He may then be led to converse respecting his possessions, his means of livelihood, and his hopes of advancement in rank or property; such conversation will open up the delusions of pride, ambition, and acquisitiveness. He may then be led to converse of his near relatives and friends, and especially respecting his birth and parentage, and his belief whether his parents were his actual and real parents. This inquiry will tend to open up any delusions respecting imaginary greatness, and any perverted emotions towards those who ought to be dear to him. The subject of religious opinion may then be introduced. The religious observances which he practises may be inquired into, with the reasonable expectation of finding insane delusions on a subject which touches the deepest sentiments. If the patient is an educated man, it will be right to converse with him upon politics

and upon science. If he can stand the test of discriminating inquiry on these and similar subjects, he certainly cannot be the subject of Mania; and if he has any delusions, he must either retain the power of hiding them, or they may fairly be considered to exist in some obscure corner of the brain, from which they are little likely to influence, with any force, the opinions, the feelings, or the conduct.

Perverted propensities and instincts come under the province of observation, and cannot usually be elicited by verbal examination. Indecorous conduct towards the opposite sex, ravenous and perverted appetite, filthy and unnatural habits, must often be ascertained from the evidence of those who have special opportunities for observation.

On all the subjects above mentioned, in opinion, sentiment, instinct, and conduct, the chronic insane differ to a greater or less extent from their fellow-creatures; and, what is generally of more importance, from themselves. If it can be ascertained that the points of difference have been consequent upon some cause potent in the production of mental disease, before the operation of which cause the patient was like other men, there can be no hesitation in setting down all the discoverable differences to the account of Insanity. But such knowledge is not always available in diagnosis; either the former history of the patient may be out of reach, or it may prove that the differences between him and other men have existed from an early period of life. It would be incorrect to say that some men are born maniacal, as others are born idiotic; but it is perfectly correct to say that some men are born with so strong a tendency to Mania that the disease gradually develops itself in very early life, in such a manner that it is impossible to compare the mature maniac with any previous conditions of his former self in which he may be predicated to have been of sound mind.

In such instances the strangeness of thought, feeling, and conduct can only be compared with a standard of human qualities as they exist in the race. The standard of mental health is necessarily transferred from the individual to the kind; and although it may be more difficult to appreciate deviations from the latter, because the standard itself is not only more variable, but also further removed from comparison, still it may be made use of. "Mankind are by nature so closely united, there is such a corre-

spondence between the inward sensations of one man and those of another," that any considerable deviation from the principles of thought and feeling common to the race may justly be set down to causes more profound than the superficial influences of "those merely nominal relations which hold men together in little fraternities and copartnerships."—('Butler's Sermons.') The effect of such cause, which alters the disposition aud bias of nature, is properly called disease, when it depends upon a pathological state of the brain; when such a state cannot be predicted, it is referred to Eccentricity.

The Diagnosis of Eccentricity is only likely to be required in cases of disputed will, or in criminal trials where eccentric conduct is utilised to support the plea of Insanity. There appear to be two forms of Eccentricity, radically distinct. The one arises from an excess of what phrenologists call individuality. With little regard for the opinions of others, the eccentric man of this class strikes out a path for himself in all matters, both of opinion and of conduct; such a man is often endowed with more than an average portion of good sense and of moral courage, although his sense is founded upon reasonings marked out by his own mind upon propositions laid down by himself, and adverse to the common sense of those among whom his lot is cast; and his moral courage is displayed by adhesion to his own opinions, and setting at naught the ill-founded ridicule of the world. Goldsmith gives an admirable sketch of this species of Eccentricity in the character of Burchel. It may safely be affirmed that an eccentric man of this type is further removed from the chances of Insanity than most of the sane people upon whose prejudices and fantasies he sets a remorseless foot. Such a man possesses the minimum of vanity, and is therefore not easily wounded by events which would overwhelm others with disgrace and chagrin. His intelligence is generally clear and untrammeled, and little liable to be made the sport of his passions. His emotions may be strong, but they are under control. He steers an independent course, far from the fleet of common minds under the convoy of recognised authority; and, in the storms of life, he battles vigorously against disaster, and resists shipwreck better than most men. The French philosopher, La Bruyère, recognises Eccentricity, when held within the limits of reason, to be in some sort the characteristic of superior intelligence and integrity. "Le commun des hommes

est si enclin au déréglement et à la bagatelle, et le monde est si plein d'exemples ou pernicieux ou ridicules, que je croirais assez que l'esprit de singularité, s'il pouvait avoir ses bornes et ne pas aller trop loin, approcherait fort de la droit raison et d'une conduite réguliere."

The eccentric man of the second class deviates from the ways of his fellow-men from weakness of judgment, from love of applause, and the desire of drawing upon himself the attention of others; from conduct ill regulated and influenced only by vacillating emotions, strong or weak according to the caprice of the hour. Men touched with imbecility are almost always eccentric; if the imbecility is secondary upon an attack of acute mental disease—that is, if it is, strictly speaking, slight dementia—they are always eccentric. Partial imbeciles, with gentle and affectionate dispositions, may, by careful and good training, avoid all devious paths in conduct. As a rule, however, a large proportion of the persons who become laughing-stocks on account of absurd vanities, or who become troublesome and mischievous to their friends or the public, on account of absurd scheming or ridiculous behaviour, will be found to have intellectual powers of low order, great desire of approbation, and little individuality.

This form of Eccentricity is often nearly allied to Insanity, and is often premonitory to it. Its subjects are to be found in families tainted with hereditary predisposition to mental disease; and it merges so gradually and insensibly into mental disease, that the lines of demarcation are traceable only with the greatest difficulty, and, indeed, often are not to be traced at all. In many cases, however, the transition is marked by perversion of the emotions, by unfounded suspicions, anxieties, and antipathies, and also by signs of physical disturbance, by sleeplessness and general feverishness. Eccentricity of this kind and Insanity overlap at the edges, so that there is a region in which either condition may be predicated of the sufferer. On each side of this region the distinction may be drawn, by observing, in Eccentricity, that the intellectual faculties are in no way perverted, and, with the exception of the judgment, that they are not even defective. The practical judgment is invariably weak; the character is marked by obstinacy or fickleness; unaccountable states of emotion often present themselves, but they are remarkable for their strangeness, rather than their force. The perverted emotions of the eccentric man are

feeble in comparison with those of the lunatic, and it is seldom that they result in offences against the law. The propensities of the eccentric man are normal, and his countenance, demeanour, and state of muscular activity are devoid of the signs of Insanity.

There is a form of apparent eccentricity which is, in truth, a state of latent Insanity. In this form the intellect may be vigorous, but the emotions are invariably morbid. There is more than a tinge of melancholy in the feelings and sentiments; and this, reacting upon the imagination, gives rise to opinions and conduct strangely at variance not only with the common ways of men, but with the vigorous intelligence of the individual. Such a man was Samuel Johnson. Such men may be less liable to absolute Insanity than the eccentric and vain imbecile, but it may be affirmed of them that they never enjoy the free and healthy action of all the functions, mental and bodily, the *mens sana in corpore sano*. Such men are neither altogether eccentric, nor altogether alienated from themselves or from the sane portion of mankind; their course of life is often vigorous and decided; and although, owing to the mental bias, they move in curved lines, still the bias is calculable, and the line of progress determined.

Diagnosis of Melancholia.—Before the time of Esquirol, all the forms of supposed partial Insanity were included under the term Melancholia; but, since the general adoption of the term Monomania, suggested by him, Melancholia has frequently been included under this term. This is not less an error than the former, for Melancholia and Monomania are distinct diseases, although they constantly and greatly encroach upon and run into each other. In pure Melancholia the intellectual faculties are not involved; it presents the most indubitable example of Emotional Insanity. We have seen cases the very converse of melancholia, in which excessive gaiety and cheerfulness, fun, frolic, and delight, without the slightest trace of delusion or erroneous opinion, have been the symptoms of mental disease, known to be such from its ætiology, from its physical symptoms, the effect of remedies, and their results. Such cases are too rare to justify any alteration of nosological arrangements for the purpose of including them, and they are generally noticed as instances of mania. They are, however, cases of purely emotional Insanity, forming the converse of those far more numerous cases in which the sentiments and feelings are sad, gloomy, and fearful.

Melancholia is frequently hereditary; that is, not only is the tendency to Insanity, but the tendency to this particular form of Insanity, transmitted. It is occasioned by all the moral causes of mental disease, especially by griefs, disappointments, reverses, and anxieties of every kind. It is also caused by long-continued ill-health arising from the infraction of the laws of hygiene; and it is the most frequent form of mental disorder which accompanies the grand climacteric of women. It is very needful to bear in mind the ætiology of mental disease, in attempting to form an opinion on uncomplicated Melancholia; because these symptoms may seem to vary in degree only, but not in kind, from that normal and healthy grief and sorrow, of which all men have their share in this chequered existence.

Some writers on Insanity assert that Melancholia is frequently a mere growth from a state of normal grief and low spirits. According to our experience, this statement is incorrect, or has only a slight and fallacious foundation in the accidental occurrence of real causes of normal grief simultaneously with the pathological causes of Melancholia.

An occurrence which would produce normal grief in a person not predisposed to mental disease, produces Melancholia in a person who is so predisposed. In such a case it may only be possible to found a distinction upon the relative intensity of the natural and of the pathological emotion. In other instances, Melancholia is produced by causes which have no power over the normal emotions; and, in such cases, the consideration of the ætiology is an important point in the diagnosis.

The symptoms of Melancholia are despondency, fear, and despair, existing in a degree far beyond the intensity in which these emotions usually affect the sane mind, even under circumstances most capable of producing them; and in numerous instances existing without any commensurate moral cause, and often without any moral cause whatever.

Grief, fear, and anxiety are natural to the mind; delusion and hallucination are unnatural; therefore it is that the existence of the latter affords much greater help to diagnosis than that of the former. Disease has to be ascertained from the degree and origin of the former, while the mere existence of delusion is enough to guide the judgment. To adopt terms from other forms of disease: Melancholia is a homologous affection, while Mania and Mono-

mania are heterologous. The former is, however, not less a diseased condition, although it is more difficult to determine at what point the disease commences; just as in early stages of fatty liver it is difficult to pronounce whether the organ is in a state of disease or not, because fat is a natural constituent of the liver. But cancer of the liver is easily detected at an early stage, because it is a heterologous formation, and easily distinguished from the neighbouring parts. But, when the whole texture of the liver has become transformed into fat, and when this transformation is contemporaneous with other pathological changes, intimately connected with its production, its nature is perfectly obvious and apparent. So with emotional diseases of the brain; at their commencement it is often impossible to be certain of their nature; one must wait awhile to observe their course. But when the whole mind is stretched in one direction, when all the faculties are swallowed up in one overwhelming emotion, there can be no more hesitation respecting the pathological state. No mental disease stamps itself more legibly upon the physiognomy and demeanour of the patient than Melancholia; the sad and anxious eye, the drooping brow, the painful mouth, the attenuated and careworn features, the muddy complexion and harsh skin, the inertia of body, the stooping and crouching postures, the slow and heavy movement, speak of distressing oppression of the faculties and intense wretchedness. In other cases fearful anxiety is observed, and the eye becomes bright, the nostrils dilated, the movements quick, irritable, and often impassioned, under the influence of some vague terror. If the physician can note the above symptoms, and can trace them to a cause productive of Insanity, he will have little difficulty in pronouncing his patient insane, although he can discover no trace of delusion. In many instances of this kind the patient is painfully conscious of the nature of his malady; he not only knows that he is insane, but will seldom attempt to conceal his consciousness thereof from any considerate and sympathising inquirer. Milder cases of this kind do not always require the restraints of an asylum, but they do require those cheerful influences of kind friends, change of scene, and mental diversion, which would be resorted to if the case were one of ordinary and healthy grief. The fear of suicide, and the possibility of preventing it, is that which here gives value to a positive diagnosis.

Pure Melancholia is frequently preceded by a brief period of

general mental excitement; and, in many cases, short periods occur during the course of the disorder in which the symptoms verge upon those of Mania. Two or three sleepless nights occur, the patient becomes irritable and restless, and talks on the subject of his grief with vehemence; he soon, however, relapses into the dull and languid monotony of his former condition.

Melancholia tends to the development of delusion; and, in four cases out of five of Melancholia, delusion will be found to exist. By delusion we do not mean an exaggerated self-depreciation, or an excessive sensibility to the supposed neglect of friends, or to words construed into expression of reproach. These, doubtless, indicate weakness of judgment, and may strictly be considered as a proof that the intellectual functions are not sound. But by delusion we mean an intellectual error caused by the pathological condition of the mind, and displaying itself in false sensation, perception, or conception; in illusion, hallucination, or delusion proper. The melancholiac who simply believes, in the earlier stages of his malady, that he is unworthy of God's favour, and too wicked to enjoy peace in this life, or felicity in the future, by dwelling upon these ideas,—the result of emotional rather than of intellectual operations,—comes eventually to believe, either, first, that he is the devil incarnate—a delusion; or, secondly, that he hears the voices and sees the form of fiends—an hallucination; or, thirdly, he refers gastric pains to an internal devil—an illusion causing one form of demonomania.

The delusions of melancholiacs are frequently single, and hence the intimate connexion between this form of disease and Monomania. They also are frequently concealed by the patient, as before said. The pure melancholiac is conscious of his disease; he is also painfully conscious of the delusions which engraft themselves upon it. He struggles against them himself, and endeavours to conceal them from others. The general melancholic state of emotion will be readily admitted, while the intellectual delusion will be hidden. The delusions of Mania are obtruded upon the notice of the physician by the demonstrative vehemence of the patient; but the delusions of Melancholia must be sought for carefully, skilfully, and patiently. The physician must throw his grappling-iron in every direction, and expect to draw it up empty many times before he lays hold of the sunken cable. But if, with adroit management and sympathising gentleness, he inquires into

the patient's feelings and opinions in relation to the Deity and the future life; in relation to his friends and property; in relation to his social position and expectations; and in relation to his bodily health, personal habits, &c., it is improbable that any established delusion can long escape his notice. Melancholic patients will, however, not only conceal, but sometimes deny their delusions. When this is the case, there is no remedy but patience and prolonged observation. The delusion which may be repudiated to-day will be imperious and undeniable in a week's or a month's time. Melancholia proper, passing into Monomania, is essentially a chronic disease, and its symptoms cannot be observed before they have become developed.

There are two varieties of Melancholia proper met with in the field of actual observation. In one, the emotional functions involved are those of sorrow and regret. These emotions dwell upon events which have already taken place; and the mental anguish of the present is derived from the contemplation of the irrevocable past.

In a second form of Melancholia, the emotions indicated are those of apprehension, fear, terror, in all their modes of expression. Excessive anxiety, or that form of mental disease which the Germans call *angstgefühl,* and which is often seen in our wards, but not yet placed in our nosologies, belongs to this variety. The mental pain occasioned by these emotions arises from the anticipation of future misery. Esquirol's term of lypemania should be restricted to the former variety. Cases are actually met with in practice in which the present anguish of mental disease is occasioned solely by the contemplation of the past, or solely by the contemplation of the future. In a strict nosology it would be well to restrict the term lypemania to the former, and pantophobia to the latter of these varieties of mental disease. The large majority of instances, however, of depressive emotional Insanity are compounded of fear and sorrow, in ever-varying proportions.

Melancholia Attonita.—Melancholia sometimes assumes a form which may be mistaken for extreme Dementia. This form was recognised by Dr. Burrows, who says, speaking of melancholiacs, "Sometimes they are so wholly absorbed by one or more delusions as to be almost lost even to animal instinct and to the functions of automatic life." It has more recently been investigated by several French authors, and especially by the able editor of the

'Annales Médico-Psychologiques,' M. Baillarger. It is called by him *Mélancolie avec stupeur*, and is said to be composed of two forms of mental affection—namely, of the sadness, self-depreciation, and motionless fear of Melancholia, and the embarrassment of thought, the slowness of conception, and intellectual inertia of primary Dementia or Stupor. The patient stands or sits in one fixed position, or walks slowly to and fro, in one unvarying movement. The calls of nature are not attended to, and the patient has often to be fed, dressed, and removed from one room to another by force; he maintains an obstinate silence, or mutters unintelligibly to himself. A strong tendency to suicide frequently exists, and sometimes the patient undergoes an accession of temporary excitement. The expression of the countenance is peculiar—it is that of intense reverie, or petrified thought. When the patient recovers, he is found to have fully retained his consciousness of all that has happened to him, and of all the events which have fallen under his notice; and it is usually found that his mind has been absorbed by some fearful hallucination or delusion. One has thought himself standing to the chin in a sea of blood, another surrounded by the dead bodies of his relations. These cases of Melancholia, resembling profound Dementia, may be distinguished from the latter malady—first, by the expression of the countenance, which, in Melancholia, is contracted, and marked by an intense although an immoveable expression; while in Dementia, it is relaxed and expressionless. Secondly, in abstracted Melancholy the patient resists being moved, sleeps badly, and often refuses food; in Dementia, he complies with the wishes of the attendants, has a good appetite, and sleeps well. Thirdly, in abstracted Melancholy the bodily functions are more seriously affected than in Dementia, the body is emaciated, the complexion is sallow, the skin is harsh, and the secretions generally deranged; whereas in Dementia the body often retains its plumpness and the secretions are little altered from a healthy standard. Fourthly, after recovery, the patient who has been affected with abstracted Melancholy is found to have retained his consciousness through the whole period of his disease; when recovery takes place from primary Dementia, the past is found to have left no traces in the memory.

Diagnosis of Melancholia from Hypochondriasis.—This is sometimes a most delicate and difficult question to determine. In the

trial of Buranelli, who was executed in London, in 1855, for the murder of one Lambert, it was of the utmost importance to determine whether certain absurd opinions, which the prisoner had entertained respecting the existence and nature of a fistula, were the result of mental disease (Melancholia) or of Hypochondriasis, which it appears to have been assumed is not a mental disease. In the general truth of this assumption we must agree, although there is no doubt that Hypochondriasis sometimes terminates in true Melancholia; and that original Melancholia is sometimes marked by many of the symptoms of Hypochondriasis.

Until recent times, it appears that many cases of true Insanity were regarded as instances of Hypochondriasis. Galen and other ancient authors described Hypochondriasis as a species of Melancholy; and, in later times, Pinel and other authors of authority included it in their classification of mental disorders. "Joseph Frank included among hypochondriacs those melancholiacs who imagine that their body is made of butter, as did Gaspard Barlœus, a distinguished physician of the seventeenth century; of mud, like a patient spoken of by Aretæus; of wax, like one who was observed by Grimm; of glass, like a philosopher who was described to Sanchez by Boerhaave. Such persons avoid heat, lest they should be melted; they forbear to drink, lest they should be dissolved; or they continually remain sitting, in order to avoid being broken. Frank also confounded with hypochondriacs, persons who believe themselves turned into animals (zoanthropes), and all other monomaniacs who have false ideas or perceptions relative to their individuality. This opinion was an error which vanished before a more profound classification of mental disorders." (Michéa, 'Traité de l'Hypochondrie.')

It is therefore certain that Hypochondriasis and Melancholic Monomania were not clearly distinguished by physicians until recent years. Prichard, however, distinguished between the two affections with his usual clearness and precision. He observed "that a hypochondriac is in full possession of his reason, though his sufferings are not so dangerous or so severe as he supposes; *but if he declares that his head or his nose has become too large to pass through a doorway, or displays any other hallucination, he has become a lunatic;* his disorder has changed its nature; and this

conversion takes place occasionally, though by no means so frequently as is supposed." "Hypochondriacs, however low-spirited or dejected, also suffer differently from persons affected with Melancholy. The apprehensions of the former are confined to their own feelings and bodily health. On other subjects they converse cheerfully, rationally, and justly. But melancholiacs view all things through a gloomy medium. They despond on all subjects, and are mentally miserable, and independently of any severe bodily suffering. The affections and sentiments of the hypochondriac, especially to his former friends or his connexions, are not in the unnatural or perverted state observed in all the forms of Insanity.

We must not omit the diagnosis between these two diseases, drawn by the masterly pen of Cullen, than whom no medical writer has ever been more accurate and logical in his discrimination of disease, according to the light which he possessed. He says:

"Hypochondriasis I would consider as being always attended with dyspeptic symptoms; and though there may be, at the same time, an anxious melancholic fear arising from the feeling of these symptoms, yet while this fear is only a mistaken judgment with respect to the state of the patient's own health, and to the danger to be from thence apprehended, I would still consider the disease as a Hypochondriasis, and as distinct from the proper Melancholia; but when an anxious fear and despondency arises from a mistaken judgment with respect to other circumstances than those of health, and more especially when the person is at the same time without any dyspeptic symptoms, every one will readily allow this to be a disease widely different from both dyspepsia and Hypochondriasis, and it is what I would strictly name Melancholia.

"In this there seems little difficulty; but as an exquisitely melancholic temperament may induce a torpor and slowness in the action of the stomach, so it generally produces some dyspeptic symptoms, and from hence there may be some difficulty in distinguishing such a case from Hypochondriasis; but I would maintain, however, that when the characters of the temperament are strongly marked, and more particularly when the false judgment turns upon other subjects than that of health, or when, *though relative to the person's own body, it is of a groundless and absurd*

kind, then, notwithstanding the appearance of some dyspeptic symptoms, the case is still to be considered as that of a Melancholia, rather than a Hypochondriasis."

Crichton maintains that the different origin of the two is the most characteristic distinction between Melancholia and Hypochondriasis; the former seldom arising except mental causes join themselves to corporeal ones, the latter ensuing, in the first place, from bodily ailments alone.

Romberg, one of the most experienced and learned of writers on nervous diseases, lays stress upon another mark which distinguishes Hypochondriasis from Melancholia.

"Diagnostic errors are frequent from psychical hyperæsthesia being confounded with Melancholia and Hysteria. The characteristic peculiar to the former, as to Insanity generally, consists in an alienation of the feeling of identity and consciousness as regards sensations and impressions, and this in Melancholia is combined with a tendency to self-negation.

"In Hypochondriasis, on the contrary, the egotistic principle is exalted, and in no ways estranged to some other sensation or impression, so as to render this an apparent reality. The difference is clearly expressed in all the patient's relations, not excepting his relation to his physician. The hypochondriac looks upon his physician, however often he change his medical attendant, as his guardian and saviour; while the person labouring under Melancholia treats him as if he were a hostile or ignorant individual, and constantly tries to avoid him." (Romberg, vol. i, p. 184, Sieveking's Translation.)

The points of this diagnosis may be summed up as follows:— 1st. The cause of Hypochondriasis is usually some form of dyspepsia, or some morbid state of the digestive organs—that of Melancholia being some one or more of the ordinary causes of Insanity. 2nd. The *quasi* hallucinations of the hypochondriac are usually such as may be attributed to exaggerated sensibility, and they are subject to frequent variations, or entire change. The hallucinations of the melancholiac, on the contrary, even where they relate to the person's own body, are absurd, and inexplicable as the result of exaggerated sensibility. They are, moreover, fixed and permanent. 3rd. In Hypochondriasis, the patient clings to his medical adviser for the time being, with the ardent desire of obtaining relief. The melancholiac more frequently

repudiates the idea that he has any physical malady; and consequently, he is apt to dislike and avoid the medical men with whom he comes in contact. 4th. The love of life and fear of death are prevailing characteristics of Hypochondriasis. A frequent symptom of Melancholia is disgust of life, attended with desire to commit suicide, which, when motiveless, is one of the surest marks of Insanity. Suicide is never committed in simple Hypochondriasis. 5th. In Hypochondriasis, apart from the patient's judgment respecting the condition of his health, the intellectual powers remain intact. In Melancholia, the intelligence is often greatly impaired. 6th. In Hypochondriasis, apart from the selfishness generated by a constant regard to the state of his health, the emotions of the patient are in a normal state. He may, indeed, be wretched, selfish, fickle, and exacting; but he suffers from no perversion of the emotions, entertains no suspicions or antipathies towards his relatives and friends—no ideas of treachery, of pursuings, of criminal accusations against him on their part. In Melancholia such ideas are frequent, and perversion of the emotion is a constant symptom.

Monomania.—This form of Insanity is seldom primary. The great majority of cases are sequences of or transformations from Melancholia. In some instances Melancholia exists, for a time, without delusion; but at length the delusive idea develops itself, acquires consistency and strength, and thenceforth sustains and directs the course of the perverted emotions. After the development of the delusive idea, however, the emotional disease frequently subsides, or continues to exist in a milder form. In these cases the single intellectual error becomes prominent, and easily attracts observation. In many other cases it is not possible to distinguish between the period of emotional disturbance and that of intellectual aberration. The two appear to arise contemporaneously; and it may even seem that the intellectual aberration is first in order of time, and the emotional disturbance the consequence thereof. A man of wealth and reputation fancies that he is pursued by the police for fraudulent bankruptcy, and his mind is occupied by the most gloomy apprehensions and by the saddest regrets. If such a disease has developed itself slowly, it will be possible to observe the order of causation; and our own experience confirms that of M. Guislain, M. Brierre de Boismont, and others, who affirm that the emotional disturbance always occurs first and

the intellectual perversion takes place subsequently. When the symptoms of such a case develop themselves more rapidly, the emotional and intellectual phenomena cannot be observed in any order of succession. They appear to rise contemporaneously; but since they do not so arise in those cases, the course of which can be observed, it is, we think, more probable that their apparent contemporaneousness is unreal, and dependent upon difficulties of observation, rather than that the succession of phenomena is different in rapid cases from that which is observed to exist in slow ones.

It is of the utmost importance to trace the existence, past or present, of perverted emotion, in common with deluded opinion. Deluded opinion upon one subject, standing by itself, and without hallucination or perversion of the emotions or instincts, cannot be recognised as a form of Insanity. The history of human error, and especially of religious error, affords such abundant examples of every species and every exaggeration of absurd opinion, that on many subjects opinion or belief alone, without reference to the mode of its causation and its accompaniments, cannot be viewed as a characteristic of Insanity. The difference between a Mormonite, a Princeite, a clairvoyant, or a table-rapper, and a true monomaniac, depends upon this—that in the former, the absurd opinion is the natural consequence of ignorance, and inaptitude to use aright the faculties of observation and judgment; in the latter, it is one of the train of symptoms of a pathological condition of the brain, and is consequent upon the recognised causes of such a condition. Hence it results that the diagnosis of Monomania is only to be effected by studious attention to the present condition of all the mental faculties, as bearing traces of more active disease passed by; and also to the antecedents of the patient, investigated in a manner at once minute and comprehensive. To take an actual example:—Two persons each avow themselves to be the incarnate Son of God. In one instance we find that the individual has, for years before the avowal, studied and interpreted the Scriptures in a mystical manner; that, although a clergyman, his judgment relating to matters of theology has always been of the most weak and errant kind; that in consequence of his want of common sense and judgment, and of the vagaries of personal vanity, he has lost all chance of preferment in the regular course of his profession. As the world rejects him, he redoubles his mysticism,

his vanity, and his spiritual pretensions; he persuades some washy-minded people to believe in him, and to confer upon him the adulations which he demands in his character as the impersonation of God upon earth. This gentleman has displayed no emotional perversion. He was misplaced in the Church which has developed all the weak points of his character. A feeble judgment, a prurient vanity, and a seething imagination, have made him what he is.

The counterpart of this picture is afforded by a patient under our care, the prominent characteristic of whose mental condition is the belief in exactly the same opinion avowed by the other. Three years ago this man was an industrious and well-informed artisan; he was sober, honest, but not particularly religious; he had fever, and after the fever an attack of maniacal excitement. From this he appeared to recover, but his temper was altered; he became irritable, suspicious, and quarrelsome. After the lapse of more than a year, he declared himself to be the Son of God; his temper now improved; and at the present time the delusive opinion is, perhaps, as nearly the sole mental affection as is ever seen in cases of so-called Monomania. Occasionally there are outbursts of violence towards those who he thinks ought to obey him; but on the whole he is docile, and on other matters reasonable, and works industriously at his trade. There is this remarkable difference between the mystic and the madman—that the former turns his absurd opinion or pretence of opinion, and that of his dupes, to a profitable account, and lives more like a Sybarite than a Saviour; whereas the latter labours humbly at his calling, and adheres to his delusion, though he must feel that it costs him his liberty. A short residence in the wards of an asylum would, most probably, reduce the pretensions of the voluptuous mystic; but there is little fear that his absurd belief, if it is a belief, will impel him to conduct which will endanger the comfort or the safety of his sacred person. The belief of the madman on the other hand, is a real and dangerous one, which may lead him to the commission of any violence, either upon his own person or that of another.

In discussions which have recently taken place upon the reality of Monomania, much confusion has arisen from the want of discrimination between Insanity upon a single subject, and Insanity of a single faculty. The commonly accepted meaning of the term

Monomania, is that of Insanity upon a single subject; but a delusive opinion of such a kind, even if the subject is of the most simple nature, and most unlikely to involve the affective functions of the mind, cannot exist without the wrong action of several functions. Take, for example, the case, mentioned by M. Esquirol, of Mdlle. F., who was constantly in fear lest *something of value* should adhere to her which did not belong to her. She constantly rubbed her dress, lest something of value should be hid therein; sometimes she would touch nothing, not even food, lest something of value should adhere to it. She was on all other subjects intelligent, and in good health, and she sometimes laughed at her own absurdities. Esquirol says it was impossible to detect any disorder of her sensations, reasons, or emotions. To our mind it appears that in this case, given as a typical example of Monomania, both the reason and the emotions were undoubtedly affected, and that it is more than probable that the sensations were also involved. The patient took two or three hours to dress, so careful was she to rub her clothes, to wash, and to comb her hair, lest *something of value* should adhere to them. Surely the sensations of a healthy person would have ascertained the non-existence of this *something of value* in less time than two or three hours! The judgment was of course affected; otherwise a single comparison of her fantasy with the actual conditions of reality, would have dispelled the delusion. The emotions of conscientiousness, and of fear, its near ally, were deeply implicated; their unhealthy excitation was indeed the probable groundwork of the whole delusive structure. Insanity on a single subject, therefore, implicates many of the faculties.

Monomania of a single faculty, in its strictly philosophical sense, is not to be discovered in delusion, however simple and circumscribed it may be. If it exist at all, it exists in the pathological condition of some one or other of the emotions or instincts. There can be no doubt that the sexual instinct is not unfrequently thrown into a state of extreme excitement, by pathological changes taking place in the nervous system. This painful form of disease not unfrequently presents itself during the semi-pathological changes of old age. Men who have been distinguished, during a long life, for prudence and propriety in their relations with the other sex, when, from old age, they have one foot in the grave, are sometimes seen to throw off all restraint, and to rush into the most reckless

and disgusting libertinism. Whether or not this change of manners is accompanied by diseased processes in the brain, we have not yet been able to ascertain by necrological observation. This, however, seems highly probable, since we have seen Nymphomania end fatally in young women; and in these cases, in addition to false *corpora lutea*, we have found great cerebral congestion. Excitement of the sexual functions may depend upon spinal irritation alone, the lascivious ideas being secondary results, just as longing ideas of food are the results and not the causes of hunger. Satyriasis and Nymphomania, as examples of Monomania, are, therefore, liable to the objection that they are spinal or cerebro-spinal affections, and independent of that part of the brain which is the organ of the mental functions.

The desire of self-preservation appears to be intermediate between the instincts and the emotions. There can be no doubt that it is capable of being pathologically affected strictly by itself. Instances of Suicidal Insanity are not uncommon, in which this emotion is completely subverted, whilst no other function of the mind is touched. The unhappy patients reason and struggle against the fatal propensity, but in vain. The desire to die by one's own act appears to be the one mental symptom, and to present the most undoubted instance of disease affecting only one function. The majority of these cases are hereditary.

Occasionally, cases present themselves of an equally simple character, in which the desire of self-preservation is exalted. They differ somewhat from cases in which the sentiment of fear is exaggerated (Pantophobia). Excessive fear directs itself to other events besides that of death, and is more frequently complicated with delusive opinion or hallucination. Intense apprehension of death sometimes presents itself alone, and is the counterpart of suicidal desire. It generally results from moral causes of wretchedness. It occasions sleeplessness, emaciation, and a morbid state of all the bodily functions, and is capable of verifying its own predictions.

The Moral Insanity of Prichard is not a true Monomania. The moral faculties form a group of powers, which are all more or less affected. Granting, therefore, that which is improbable, that the intellectual faculties may be intact, the number of the moral functions affected takes the disease described by Prichard out of the

category of Monomania. Its diagnosis is of the utmost importance, and often of the utmost difficulty.

The following is the account given of this form of disease, by the learned author with whose name it is associated :—"There are many individuals living at large, and not entirely separated from society, who are affected in a certain degree with this modification of Insanity. They are reputed persons of a singular, wayward, and eccentric character. An attentive observer will often recognise something remarkable in their manners and habits, which may lead him to entertain doubts as to their entire sanity, and circumstances are sometimes discovered on inquiry which add strength to this suspicion. In many instances, it has been found that an hereditary tendency to madness has existed in the family, or that several relatives of the person affected have laboured under other diseases of the brain. The individual himself has been discovered to have suffered, in a former period of life, an attack of madness of a decided character. His temper and disposition are found to have undergone a change; to be not what they were, previously to a certain time; he has become an altered man, and the difference has, perhaps, been noted from the period when he sustained some reverse of fortune, which deeply affected him, or the loss of some beloved relative. In other instances, an alteration in the character of the individual has ensued immediately on some severe shock which his bodily constitution has undergone. This has been either a disorder affecting the head, a slight attack of paralysis, or some febrile or inflammatory complaint; which has produced a perceptible change in the habitual state of his constitution. In some cases, the alteration in temper and habits has been gradual and imperceptible, and it seems only to have consisted in an exaltation and increase of peculiarities, which were all more or less natural and habitual."

It would appear from this, that perhaps the only diagnostic symptom between mere vicious propensities and Moral Insanity is the mode of causation. Moral Insanity is always preceded by an efficient cause of mental disease, and there has always been a notable change in the emotions and the propensities, following and apparently consequent upon the operation of this cause. Sometimes the moral effect of the cause is very limited. The Rev. D. Denman, in one of his excellent papers on the dependence of mental upon physical conditions, in the 'Psychological

Journal,' relates an instance of a gentleman whom he knew, and who received an accidental injury on the head. He soon afterwards displayed exalted pride, an emotion which was previously foreign to his character, but which thenceforth continued to the end of his life. Such instances are far more rare than those in which the cause of mental disease has been followed by an alteration in several of the emotions, though it is open to doubt whether, in some of these instances, one emotion having intimate union with several others, has not been primarily affected. Excitement of irascibility or combativeness, for instance, will change the whole moral character of the individual. All benevolent and kindly affections, all prudent regard for the feelings of others, all sense of duty and of justice, will disappear before the storms of habitual passion. In mere ill-regulated but normal emotion and instinct, there has been no sudden change of character consequent upon fever, apoplexy, injury to the head, or other notable causes of disease; the power of desire and of unbridled propensities has been of gradual growth, arising from frequent indulgence. It is a physiological condition contrasted with the pathological condition of Moral Insanity. Such a condition is exemplified in the first example quoted by Prichard from Pinel, in which "the only son of a weak and indulgent mother gave himself up, habitually, to the gratification of every caprice and passion of which an untutored and violent temper was susceptible: the impetuosity of his disposition increased with his years; when unmoved by passion, he possessed a perfectly sound judgment; he proved himself fully competent to the management of his estate, as well as the discharge of his relative duties." But "wounds, law-suits, and pecuniary compensations, were the consequences of his unhappy propensity to quarrel, and an act of notoriety put an end to his career of violence; enraged with a woman who had used offensive language to him, he threw her into a well, and he was condemned to perpetual confinement in the Bicêtre." M. Pinel terms this affection "emportement maniaque sans délire;" but, notwithstanding that the case is quoted by Prichard, it must be admitted that it is defective in the marks which he has himself laid down as the characteristics of Moral Insanity. No cause of mental disease was shown to have existed, and the alteration in the temper and habits, which Prichard, in another place, insists upon as existing in *all cases* of

Moral Insanity, had not taken place; on the contrary, the case appears to present an unequivocal example of unbridled passion, the result of bad education and of vicious indulgence. This case bears a strong resemblance to that of William Dove, which has recently caused so much discussion. It may be, that emotions and propensities which have acquired strength by constant indulgence become at length as irresistible, when the moment of temptation arrives, as those which are the result of mental disease. This, however, is a question more for the moralist than for the physician. The rôle of the physician is, to point out to the magistrate that which is disease and that which is not. He is neither the legislator nor the administrator of the law. The law requires his opinion because it recognises a difference between passion which is the result of indulgence, and passion which is the result of disease. To the former it applies correction, because it might have been withstood, at least in some stages of its progress, and because its correction is thought to be needful to the welfare of society. Passion, the result of disease, it does not correct, because the patient who suffers from it could not have withstood its progress, and because its correction, in any other mode than by appropriate medical treatment, would be useless and cruel.

The principles laid down for the diagnosis of Moral Insanity are equally applicable to the special varieties of the disease, to Homicidal Insanity, to Kleptomania, and Oinomania. Pyromania appears to have been a needless refinement of classification applied to a particular mode of destructiveness. The Prussian Medical Council, which first established the variety by its dictum, has since repudiated its existence; and the term Pyromania ought to be expunged from books, or remembered only as a passing absurdity of psychologists. The existence of *Homicidal Insanity* ought never to be admitted without the proof of other symptoms of mental disease than the perverted instinct itself, or at least without the existence of well-recognised or efficient causes of mental disease, and an obvious change in the temper and disposition consequent thereupon.

As a rule, therefore, in the absence of other symptoms of Insanity, it will be well to insist that homicidal impulse only can be admitted, upon proof that an efficient cause of mental disease has been followed by a notable alteration of disposition and habits, and that

the overt act has not been instigated by criminal motive. This latter point, however, admits of exceptions.

The diagnosis of **Kleptomania** is to be made on the same principles. The instances on record of the propensity to steal, exhibited by persons who had no temptation to appropriate the property of others, beyond the gratification of a disordered or at least an ill-regulated mind, are scanty authority for the establishment of a pathological state. The physician, quoted by Prichard, who stole silver spoons and snuff-boxes from his patients, might possibly have been cured of his bad habit, had it exposed him to any serious inconvenience. Kleptomania is never urged as a defence for the delinquencies of the poor; but when ladies of respectable connexion are detected in habits of shop-lifting, the theory of Kleptomania has been found exceedingly convenient. In order to substantiate the existence of this form of Insanity, previous disease affecting the brain, followed by change of disposition and habits, ought to be proved; and to verify the diagnosis, it would be satisfactory if it could be shown that the articles stolen were not appropriated to his or to her gratification. In his reminiscences of prison life, Mr. Chesterton gives a singular example of a wealthy shop-lifter. She was an Irish lady, of ample fortune; on examining her clothing after apprehension, she was found to have only one under garment; this was made of chamois leather, and was covered with pockets conveniently placed for the concealment of her booty. When in prison, under pretence of inspecting some papers she sent for a box, from which she was observed to abstract a parcel, which proved, on examination, to contain cash to the amount of more than £2000. As she was a felon, this was forfeited to the Crown. She was discharged from the prison on a rainy day, and to save a cab fare she requested permission to stay the night. The correctional discipline of Coldbathfields cured her of shop-lifting, but, as the sequel proved, it had little influence on her love of money.

The diagnosis of **General Paralysis** is of the most facile sort, after practical knowledge of the disease has been acquired, although it is not easy to describe in words the slight but pathognomonic changes which speak so forcibly to the practised eye and ear of the observer. The best diagnostic symptom in the early stages of General Paralysis is the modification of articulation. This is neither stammering nor hesitation of speech. It more closely

resembles the thickness of speech observable in a drunken man. It depends upon loss of power over the co-ordinate action of the muscles of vocal articulation. In many instances the speech of the early paralytic is fluent and clear, except in the pronunciation of certain words, or sequences of words, which require the neat and precise action of the muscles of speech. Words composed of vocalic sounds connected by single consonants are articulated with correctness; but words composed of numerous consonants, with few vocalic sounds, are articulated in a shuffled manner, which is perfectly characteristic. The patient may even possess the power of articulating these words correctly, if he purposely attempts to do so; but if the examiner holds him in conversation for a few minutes, the ear will infallibly detect the slight but fatal *Shibboleth* of incurable disease. Some little practice in the wards of an asylum is needful to the attainment of readiness in the appreciation of a physical symptom of this kind, just as all the verbal descriptions ever given in books of stethoscopy are of little value, unless the ear is itself practised on the chest of the patient labouring under pulmonary or cardiac disease. There are many other symptoms of General Paralysis, the existence of which perhaps, adds certainty to the diagnosis, but the affection of speech is worth more than all the others. It is always present when the others are present, and without it no other symptoms can be considered diagnostic. In speaking, the lips are tremulous, not unlike those of a person about to burst into passionate weeping. Protrusion of the tongue can only be effected with effort, and cannot be long continued; and, while protruding, the organ quivers. At a later period the brows droop, and the contraction of the iris under the stimulus of light is sometimes different in the two eyes. At a period of very variable duration after the affection of the voice is perceptible, the muscles of the limbs lose the exactitude of co-ordinate action. In walking, the patient stumbles along in a peculiar manner. He does not drag the toe after him, like a patient affected with hemiplegia; neither does he walk in the straggling and flat-footed manner, with high action, and as if his foot did not belong to him, like a sufferer from spinal paralysis. The mode of progression indicates the want of consentaneous action, rather than want of power in the muscles. At a later period the muscles of the arms are affected, so that any delicate handicraft, or any muscular movement requiring nice and rapid action, like

that of writing, or playing upon a musical instrument, cannot be performed. As the disease progresses, power over the sphincters is lost, and the patient becomes wretchedly filthy; and at last, even power over the muscles of purely excito-motory action becomes lost, and the patient is apt to become choked while taking his food, by the stoppage, as is generally believed, of a morsel of food in the pharynx. We doubt, however, whether food in the pharynx alone would produce the sudden deaths to which paralytics are subjected while eating, unless the mass in the pharynx obstructed the opening of the larynx. A mass of food to be able to do this must be very large. We have in three instances carefully examined the position of the obstructing morsel which had caused death, and found that in two instances there was no food in the pharynx, but that the fatal morsel was stuck fast in the box of the larynx; in one instance it was a crust of bread, in the other it was a piece of meat. In the third instance, a general paralytic, with ravenous appetite, was being carefully fed with some soft pudding, by an attendant; an epileptic patient had a severe fall in a fit, and the attendant sprang to his assistance; the general paralytic crammed the pudding into his mouth, and was immediately choked. On examination, both the larynx and the pharynx were found to be filled with the soft mass of the pudding. It would appear, therefore, that the cause of these fatal occurrences is the loss of the excito-motory function which, in a healthy person, prevents the entrance of food into the larynx.

The form of mental disorder which accompanies General Paralysis is frequently of diagnostic value. The emotions and propensities are less frequently involved than in other forms of mental disease. Cases, however, do occur, in which the propensity to theft and to indecency is inveterate; and we have known a man tried for felony, who was not able to articulate his own name from the ravages of this fatal disease. The rule, however, is as we have stated it. General paralytics are not usually found to entertain the unfounded aversion and suspicions so common during the incubation of Mania. General paralytics are not malignant; and although sometimes furious, their passion is gusty and transient. The form of intellectual disorder, moreover, is frequently of a most remarkable kind; the patient fancies himself possessed of wealth and power illimitable, and is often

fantastically imaginative. One man fancies himself the possessor of thousands of millions of sovereigns—of shiploads of gold and silver and precious stones; another fancies himself greater than God; another says that he can lift the world, and that all the children that are born in all parts thereof issue from his loins. This man also says that he is heavier than the world, and that all the men in the world cannot lift him. We invite him to lie down, and lift him with ease. He immediately explains that our success is owing to the buoyancy of the angels that are in him. When a patient exhibits this imaginative extravagance of idea, accompanied with slight emotional disturbance, any loss of clearness in vocal articulation will suffice for a positive diagnosis. In some cases, however, there are terrific delusions, with emotional depression; and in others the mental symptoms are merely those of gradually increasing Dementia.

The diagnosis of this disorder is more certain in its earlier than in its middle and later stages. In the earlier stages there is no other disease for which it can be mistaken. In the majority of cases the symptoms are sufficiently distinctive in the latter stages also, but we have ere now experienced difficulty in distinguishing a case of advanced Dementia with habitual hesitation of the voice from General Paralysis. The absence of muscular tremors and debility in the lips and limbs, and the difference between mere vocal hesitation and the want of articulating power peculiar to General Paralysis, decided the diagnosis. Cases also present themselves in which many of the symptoms of advanced Paralysis are caused by double apoplexy; cases in which each side of the body is in the condition observable on one side in hemiplegia. When both sides of the body are paralysed, the signs of hemiplegia afforded by the unequal contraction of the symmetrical muscles are lost. On this principle, jockeys are said sometimes to disguise a horse's lameness by placing a stone between the shoe and the hoof of the sound foot; lameness in both legs being less likely to attract notice than lameness in one. The physician is often introduced to such patients for the first time, when they have lost all power of conversation and of locomotion, when they are bedridden and silent, or able only to answer in monosyllables. In such instances, the diagnosis of the exact nature of the disease has, indeed, little practical value; but its difficulty and its scientific interest instigate the attempt to make it. Ten years ago we diagnosed a

case of this kind to be not General Paralysis, although the most eminent physicians of the day had given evidence on an Inquisition that it was General Paralysis in an advanced stage. The patient has remained during the years which have elapsed almost without change. Our diagnosis was founded upon the muscular firmness and power of expression retained by the features compared with the profound palsy of the limbs and upon the susceptibility of the limbs to excito-motory action. We think this interesting case is one of double hemiplegia combined with secondary Dementia. In the year 1852 we published, in the 'Report of the Devon County Asylum,' an account of some experiments we had made in the diagnosis of such cases, by means of the electric stimulus. The electro-galvanic apparatus was applied to the lower limbs of patients suffering (1st) from mental disease without Paralysis; (2nd) from Dementia with ordinary Paralysis, and, (3rd) from Dementia with General Paralysis. The result of our experiments proved, that in Dementia without Paralysis, and in Dementia with ordinary Paralysis, there is no loss of excito-motory sensibility, while in General Paralysis there is a great loss of this function. In some cases, the strongest stimulus of the electro-magnetic machine failed to produce any movement in the legs of the patient, beyond a slight tremor, not amounting to muscular contraction, and incapable of moving the limb in the slightest degree. This experiment may be more conveniently, but less effectually, tried by tickling the soles of the feet. In common Paralysis this causes muscular contraction; in General Paralysis it is not caused. These experiments establish a pathological rule of much importance in diagnosis—that in Paralysis having its seat in the brain, the excito-motory function of the nerves is not lost; that in General Paralysis, the pathological conditions of which involve the whole nervous system, the excito-motory sensibility is gradually abolished.*

An element of some importance in the diagnosis of this remarkable disease is afforded by the frequent occurrence of epileptiform

* These experiments were made by us during the year 1851, and published on the 1st of January, 1852. We were not aware until quite recently that the result of similar experiments had been published in 1851, in the 'Supplément au Dictionnaire des Dictionnaires de Médecine,' by M. le Dr. Brierre de Boismont, the results of which appear entirely to confirm the views expressed in the text.

We have not met with an opportunity of applying this test to hemiplegia from tabes dorsalis, but we should expect that in such a case also the excito-motory functions would be abrogated.

fits. There can be no doubt that they occur with great frequency in the middle and later stages, and with sufficient frequency in the early stage to be of great significance when associated with the peculiar expansive delirium, or with any appearances of muscular tremor. In the excellent series of papers on General Paralysis contributed to 'The Journal of Mental Science,' by Dr. Harrington Tuke, the occurrence of these fits is described as constant in all cases of this disease. He says, "I do not believe that General Paralysis ever runs through its course without producing or exhibiting the phenomena of these epileptoid fits; they may often evade observation if not particularly inquired into, and their nature may be mistaken, but their pathognomonic value when properly understood is very great, and their presence in the case, in their special form, is decisive as to the nature of the attack." At the time, however, when the diagnosis is needed, these fits may not have occurred, or they may not have been observed. Their diagnosis from epilepsy, according to Dr. Tuke, is to be made as follows:—"The tongue is seldom wounded in General Paralysis: and the tendency to sleep after an epileptic fit is very different from the entire stupor which often follows the fit in General Paralysis. The convulsions in Epilepsy are more universal; in Paralysis the arm or leg is affected, as a general rule, only on one side, although this is not constant; but the principal pathognomonic difference appears to be in the relation which is found to exist between the mental symptoms and the fits. Slight epileptic seizures occur for years without materially damaging the intellectual faculties; but in a patient affected with fits in combination with Paralysis, each seizure, however slight, is generally followed by an exacerbation of the mental derangement, which from the first is out of proportion to the disorganization indicated by the fits alone. In epilepsy the existence of these paroxysms is recognised by the patient, and their invasion is anticipated and dreaded. I have never seen a paralytic patient who seemed conscious of them, or who feared their recurrence." ('The Journal of Mental Science,' No. 31, p. 88.)

In the diagnosis of these fits from apoplexy with effusion of blood upon the brain, the same author remarks that, "in the insensibility of General Paralysis there is not usually stertorous breathing, nor that peculiar puffing of the cheeks in expiration, which marks palsy of the buccinator muscles, so frequent in

apoplexy; moreover, the paralysed limbs are rigid, as a rule, in General Paralysis, and often in violent action; the reverse of this rule obtaining in cases of blood being suddenly poured out upon or into the brain tissue." (Ibid.)

The form of apoplectic seizure which according to our experience is most likely to be confounded with the fits of General Paralysis is that of congestive apoplexy, occurring in patients suffering from atrophy of the brain. These seizures, which, so far as we have been able to observe, exactly resemble those of General Paralysis, are so frequent in demented persons undergoing gradual degradation of the brain, as to appear greatly to diminish the diagnostic value of the fits in General Paralysis, since the character of the disease must be determined by the existence of other symptoms, namely, the mental and physical symptoms of General Paralysis, or of common Dementia. The age of the patient is of some importance in determining this point; the cerebral decay accompanied by Dementia being mostly met with in persons of advanced age, while General Paralysis is peculiarly a disease of middle life. On this point Dr. Harrington Tuke remarks:—"It seldom appears before the thirtieth or later than the sixtieth year of life; practically, there is in childhood, youth and old age, an immunity from General Paralysis. I have never seen a case of General Paralysis younger than thirty, or older—when the disease commenced—than sixty. The age of the youngest case which came under Calmeil's observation is given by him as being twenty-eight, the oldest sixty-two; while the average age at which the patients under his care had been first attacked by the malady appears to have been forty-four." (Ibid.)

The Detection of Feigned Insanity is one of the most important tasks in the diagnosis of mental disease. When David was "sore afraid of Achish, King of Gath, he changed his behaviour before them, and feigned himself mad in their hands, and scrabbled on the doors of the gate, and let his spittle fall down upon his beard. Then said Achish unto his servants, Lo, ye see the man is mad; wherefore, then, have ye brought him to me? Have I need of madmen, that ye have brought this *fellow* to play the madman in my presence? Shall this *fellow* come into my house?" From whence it appears, that not only did King Achish make a bad diagnosis, but that the prejudice against the insane is as old as the earliest records. Reverting to profane history, we find that

Palamedes had more diagnostic acumen than the King of Gath. Ulysses feigned Insanity, to escape the Trojan war. He yoked a bull and a horse together, ploughed the sea-shore, and sowed salt instead of corn. Palamedes detected the deception by placing the infant son of the King of Ithaca in the line of the furrow, and observing the pretended lunatic turn the plough aside—an act of discretion which was considered a sufficient proof that his madness was not real. At the present day, one would scarcely pronounce that a man was feigning madness because he retained enough of intelligence to recognise, and to avoid the destruction of his own son; but the signs of madness adopted by Ulysses resembled, in a remarkable manner, the conduct of feigning madmen as they exist, and which, to an experienced alienist, would at once suggest the idea of deception. The feigning madman, in all ages, has been apt to fall into the error of believing that conduct utterly outrageous and absurd is the peculiar characteristic of Insanity. The absurd conduct of the real madman does not indicate a total subversion of the intelligence; it is not utterly at variance with the reasoning processes; but it is consistent either with certain delusive ideas, or with a certain perverted state of the emotions. In the great majority of cases, feigned Insanity is detected by the part being overacted in outrageousness and absurdity of conduct, and by the neglect of those changes in the emotions and propensities, which form the more important part of real Insanity. Sometimes Mania is simulated: the man howls, raves, distorts his features and his postures, grovels on the ground, or rushes about his room and commits numberless acts of violence and destructiveness. If he has had the opportunity of observing a few cases of real Insanity, and if he is a good mimic, he may succeed in inducing a person who only watches him for a few minutes, to believe that he is in the presence of a case of acute Mania; but if the case is watched for a few hours or days, the deception becomes apparent. No muscular endurance, and no tenacity of purpose, will enable a sane man to keep up the resemblance of acute Mania for a long time: nature soon becomes exhausted, and the would-be patient rests, and, at length, sleeps. The constant agitation, accompanied by symptoms of febrile disturbance, by rapid pulse, foul tongue, dry and harsh or pallid clammy skin, and the long-continued sleeplessness of acute Mania, cannot be successfully imitated. The state of the skin alone will frequently be enough to

unmask the pretender. If this is found to be healthy in feeling, and sweating from the exertion of voluntary excitement and effort, it will afford good grounds for suspicion. If after this the patient is found to sleep soundly and composedly, there will be little doubt that the suspicion is correct.

Chronic Mania may be imitated; and if this should be done by an accurate observer of its phenomena, who also happens to be an excellent mimic, it cannot be denied that the imitation may deceive the most skilful alienist. It is remarkable that two of the most perfect pictures of Insanity presented to us in the plays of Shakspeare are instances of feigned madness; namely, the madness of Hamlet, assumed to escape ths machinations of his uncle, and that of Edgar, in Lear, assumed to escape the persecutions of his brother. In Hamlet the strange complication appears to be presented of madness feigned by a man of unsound mind; that is, of Mania feigned by a melancholiac. These consummate representations of the phenomena of Insanity are so perfect, that in their perusal we are insensibly led to forget they are feigned. In both instances, however, the deception was practised by educated gentlemen; and on the authority of the great dramatic psychologist it may, perhaps, be accepted, that the phenomena of Insanity may be feigned by a skilful actor like Hamlet so perfectly, that no flaw can be detected in the representation. Fortunately for the credit of psychologists, Insanity is rarely feigned except by ignorant and vulgar persons, who are quite unable to construct and to act out a consistent system of disordered mind. It must be remembered, that all the features of every case of Insanity form a consistent whole, which it requires as much intelligence to conceive and to represent, as it does to conceive and to represent any dramatic character. The idea which the vulgar have of madness is of quite a different kind. They believe it to be a monster, half man, half beast; the emotions they represent unchanged and human; the intellectual functions they exhibit entirely perverted, grovelling, and bestial. They think that madness entirely alters the character of a man's perceptions, and utterly destroys his judgment, so that he not only ploughs the shore and sows salt for seed, but that he cannot recognise his own son, or avoid the destruction of his life. In more homely cases, it will be found, that men feigning Insanity pretend that they cannot read or write, or count ten correctly, or tell the day of the week, or how many children they have; they

answer every question wrongly, which any real lunatic, who could be made to understand the question and to answer it at all, would certainly answer aright. In illustration of these facts, we subjoin the following case of simulated Insanity, reported by Dr. Snell, in the 'Allgemeine Zeitschrift für Psychiatrie,' December, 1855.

The widow Catherine R. had bought a house, the purchase of which she subsequently regretted. In order to upset the purchase, her children declared that she was insane, and the Court named three experts to examine into the truth of this allegation. We found her a woman already advanced in years, and partially blind, in consequence of cataract; her features were expressive of stupid listlessness; she looked straight at no one, but fixed her gaze on the ground; a certain restlessness was, however, to be observed. I wished her to read and write, but was told that she could do neither; I then made her count, and she counted thus—1, 2, 4, 6, 7, 8, 10, 11, 13, 18, 19, 21. I asked her how many fingers she had on each hand; she answered, after some hesitation, four fingers. I let her count the fingers on her hand; she counted them, but skipt over the ring-finger, 1, 2, 4, 6. I asked her how many two and two were; she answered, after some thought, six. The following questions and answers then took place:

Q. How many children have you? *A.* I have, I believe, nine children. (She had really seven.)

Q. How long has your husband been dead? *A.* About ten years—(in reality only five years).

Q. In what manner did he die? (he was suddenly killed by a fall from a waggon.) *A.* He lay sick more than eight days.

Q. Do you know this daughter of yours (Catherine)? *A.* Yes.

Q. What is her name? *A.* Babetta.

Q. Have you other relations? *A.* I have a sister; she is called Barbara, and is married to a man called Prince; send to her, she comes no more to me. (This sister had been long dead.)

Q. What is the present year? *A.* I do not know.

Q. How long has Christmas passed? *A.* I do not know.

Q. Have you bought a house? *A.* No; I know nothing of it. I have a house—why should I buy a house? There were some people who wished to buy my house.

Q. Where do they live? *A.* I do not know.

Q. What is the Kloster Eberbach now used for? *A.* There are yet monks there. (There has been none there for fifty years.)

Q. Have you eaten to-day? *A.* I have not. (She had just eaten.)

Q. What did you eat last evening? *A.* Potatoes. (She had eaten soup.)

Q. In what month is hay harvested? *A.* I cannot remember.

Q. In what month is wine harvested? *A.* I believe, in September.

Q. How has last year's wine turned out? *A.* It is right good. (It was very bad.)

Q. What is the name of the teacher to whose school you go? *A.* He is called Ohler. (In truth he was called Muschka.)

Q. Do you know the Ten Commandments? What is the first Commandment? *A.* I am the Lord thy God.

Q. What is the second Commandment? *A.* I am the Lord thy God.

Q. What is the third Commandment? *A.* I do not know.

Q. The fourth? *A.* I do not know.

Q. The fifth? *A.* Thou shalt *not* honour thy father and mother.

Decided by this examination, I and my colleagues declared the widow R. to be feigning. The witnesses for the widow were condemned for perjury; and she herself was sentenced to the House of Correction for deception and seduction to perjury. I often saw her during the period of her imprisonment, and she had entirely given up her simulation.

Another very similar case is related in the 'Zeitschrift für Psychiatrie,' upon which Dr. Snell remarks, that "patients suffering from real Imbecility are well enough able to tell the number and the names of those who belong to them, and that they understand and answer questions on such matters in a very different manner from these simulators." "Common people," he observes, "have not the slightest rational idea of Insanity; they believe that all mental manifestations are completely altered in it, and that an insane person knows nothing; that he ceases to read, to write, and to reckon; and that all his relations and conditions are completely reversed. Hence it happens that all uninformed people find it difficult to acknowledge actual Insanity. When they speak of an insane person, they say that he is not mad, that he knows every one about him, and that he altogether conducts himself like a reasonable man, only that he shows some peculiarities. Uneducated people have the idea that an evil spirit, as it were, takes possession of an insane man, and drives out his being with altogether new and perverted elements. Where they observe memory, reflection, feeling of right and wrong, they think that Insanity cannot exist; and yet among the insane, all these things are seldom altogether wanting, and often exist in a high degree. On this rock simulators generally make shipwreck, if they attempt a part at all active. But it is more difficult to form a judgment if the simulator preserves a complete passiveness and an obstinate silence. It is not impossible that, by these means, Insanity may be simulated with success; yet in order to do so, the simulator must possess a rare strength of will in order, through all observations and tests, to preserve his rôle."

In the following case, the simulator was in his first attempt successful in deceiving ourselves and other medical men. W. Warren was a notorious thief, indicted at the Devonshire assizes, 18—, for felony; previous convictions having been proved against him, he was sentenced to transportation for fourteen years. Two

days after his trial he all at once became apparently insane; he constantly made howling noises, was filthy in his habits, and destroyed his bedding and clothing; he was, however, suspected of malingering, and was detained in gaol three months. During a part of this time it was found needful to keep him in a strait waistcoat. At length certificates of his insanity were forwarded to the Secretary of State, and he was ordered to be removed to the Devon County Asylum. On admission into this asylum, he was certainly very feeble, and in weak health. He had an oppressed and stupid expression of face; he answered no questions, but muttered constantly to himself; he retained the same position for hours, either in a standing or sitting posture; he was not dirty in his habits, though he appeared to be suffering from Acute Dementia. In three weeks' time he recovered bodily strength, and his mind became gradually clear. This change was too rapid not to suggest the idea of deception, but the previous symptoms of Dementia had been so true to nature that we still thought the Insanity might not have been feigned. For a period of eight months he was well conducted and industrious, and showed no symptoms of Insanity. At the end of that time he was returned to the gaol, to undergo his sentence; and, within one hour of his readmission within its portals, he was apparently affected with a relapse of his mental disease. From this time, for a period of two years, this indomitable man persisted in simulating mental disease. He refused to answer all questions; walking to and fro in his cell, he constantly muttered to himself, and sometimes made howling noises, which disturbed the quiet of the prison. Sometimes he refused his food for days together. He employed his time in walking to and fro in his cell, muttering unintelligibly; or in beating at the door of his cell; or in turning his bedclothes over and over, as if looking for something. He had a very stupid expression of face, heightened by inflammation of the eyes from the lashes growing inwards. He slept soundly. For some months he was very filthy; this habit was cured by the governor of the prison ordering him to be put into a hot bath,—hot enough to be painful, but not to scald; he jumped out of the bath with more energy than he had before shown, and thenceforth did not repeat his filthy practices. We visited him several times in prison, and expressed our positive opinion that his Insanity was feigned. With the exception of uncleanly habits, he

maintained all the symptoms of Insanity which he had adopted for two whole years; his resolution then suddenly gave way, he acknowledged his deception, and requested Mr. Rose, the governor of the prison, to forward him as soon as might be to the government depôt for convicts. In this remarkable case, the perseverance of the simulator, his refusal to converse, or to answer questions, and the general truthfulness of his representation, made it most difficult to arrive at a decisive opinion. Still, the rapidity of his recovery, in the first instance, and the suddenness of his relapse, in the second, were inconsistent with the course of that form of Insanity to which he presented so striking a resemblance. Our opinion, therefore, was formed upon a history of the case, and not upon any obvious inconsistency in the symptoms.

Whether the following case was or was not one of simulation, cannot yet be known; the recapture of the convict may perhaps hereafter determine the question. John Jakes was convicted at the Devon Easter Sessions, 1855, of pocket-picking; previous convictions having been proved, he was sentenced to four years' penal servitude. On hearing the sentence, he fell down in the dock, as if in a fit of apoplexy; when removed to the gaol he was found to be hemiplegic, and apparently demented. He, however, did some things which did not belong to Dementia following apoplexy; for instance, he was designedly filthy, and even ate his own excrements. His insanity was certified by the surgeon of the gaol, and by a second medical man, and he was removed to the asylum. Notwithstanding the medical certificates of his insanity, the convicting magistrates, who knew his character as a burglar and criminal of great ability, thought that he was feigning. Warned by them, we examined the man carefully; he had all the symptoms of hemiplegia; the toe dragged in walking, the uncertain grasp of the hand, a slight drawing of the features, the tongue thrust to the paralysed side, all these symptoms were present in a manner so true to nature, that, if they were feigned, the representation was a consummate piece of acting, founded upon accurate observation. In the asylum the patient was not dirty; he was tranquil, and apparently demented. He had to be fed, to be dressed, to be undressed, and to be led from place to place; he could not be made to speak; he slept well. On the night of the 17th of August, 1856, he effected his escape from the asylum, in a manner that convinced the magistrates that their opinion of his

simulation was just, and that he had succeeded in deceiving some four or five medical men. He converted the handle of a tin cup into a false key, wherewith he unlocked a window guard; through the window he escaped by night into the garden; from thence he clambered over a door, eight feet high, and afterwards over a wall of the same height. He got clear away, probably joined his old associates, and has never been heard of since.

It is hard to say which is the least improbable—a representation of Hemiplegia and Dementia, so perfect as to deceive several medical men, forewarned against deception; or the escape of a really paralytic patient by the means described. It must be remembered that the patient was an accomplished housebreaker, and that things impossible to other lunatics might have been accomplished by him. A third though scarcely more probable explanation was offered, namely, that he was assisted in his escape by old comrades.

The earlier writers on Insanity lay down excellent rules for the detection of feigned Insanity, although some of them are of a nature which the humanity of the present age would forbid, and others require to be accepted with precaution. Sometimes the threat of severe modes of treatment, or even of punishment, has proved successful in discovering feigned disease. Zacchias relates that an able physician ordered, in the hearing of a suspected person, that he should be severely whipped, on the ground that if really insane, the whipping would produce an irritation on the external parts which would tend to alleviate the disease; and if not, he would not be able to stand so severe a test. The threat alone served to cure the pretended malady. Another instance was detected by Fodéré, who ordered a red-hot iron to be applied between the shoulders of a woman who was accused of several highway robberies, and who feigned Insanity with great skill. The patient at once discontinued her objectionable habits, and Fodéré certified to her sanity. It must not, however, be forgotten that measures which may be either heroic treatment, or torture, might in some instances not be without their effect upon the really insane; but any extra professional or non-therapeutic infliction of pain is, undoubtedly, beyond the province of the physician.

The operation of medicines, suitable to the treatment of the insane, is a more justifiable experiment for the detection of feigned Insanity, and one likely to be more successful than the infliction

of punishment. An instructive example of this kind is given in Beck's 'Medical Jurisprudence,' from the narrative of Prof. Monteggia. A criminal, denounced by his accomplices, became suddenly attacked with Insanity; sometimes it seemed to be Melancholia, then exhilarating Insanity, and then Dementia; he made no answers to questions except by single words, as book, priest, crown, crucifix. "In his presence the physician stated that there were several peculiarities in the case, and among these, that he made noise during the night, and was quiet in the daytime; that he never sighed, and that he never fixed his eyes on any object. The drift of this conversation was, that the opposite of all these would induce them to suppose him insane; shortly after, in fact, he ceased making noise at night, and did everything which they had indicated." When Monteggia was ordered to visit him, he appeared demented; could not look at a person steadily; never spoke, but made a hissing noise at the sight of anything that pleased or displeased him; he was constantly in motion, and it was the opinion of his attendants that he scarcely ever slept. Monteggia ordered six grains of opium to be mixed in his soup, but without any effect. Some days after, this dose was repeated; but seeing, after six hours, no proofs of its operation, it was again repeated; notwithstanding this, he passed the night and the next day awake. The next night he seemed disturbed, raised himself in bed, sighed profoundly, and exclaimed, "My God, I am dying!" His attendant, who had never heard his voice before, was extremely frightened, and sent immediately for Monteggia. The patient was tranquil, and speaking sensibly, without any appearance of Insanity; he said he had no recollection of the past, but that he had heard persons say that poisoned soup had been given him. From this time he appeared cured. Monteggia seems to be of opinion that actual Dementia had resulted from long feigning. May it not be that the powers of the opium were resisted by mental tension and voluntary effort? The case is certainly as anomalous as it is interesting.

There are few cases of feigned Mania which need any resort to the pharmacopœia for the means of detection, the voluntary exertions of the feigning maniac generally resulting in exhaustion, and in sleep both natural and sound. A dose of opium may, however, sometimes expedite the discovery, if the means of patiently watching the movements of the suspected feigner are not

available. In France chloroform has recently been employed, for the purpose of discriminating between real and feigned Insanity, it being supposed that, during the intoxication produced by chloroform, a real madman will continue to rave on the subjects of his delusions; and that a person feigning madness will be overcome by its influence, and allow his imposition to be unveiled. We entertain doubts on both of these points. At least we have verified by repeated experiments, that a real maniac under the influence of chloroform, administered to a degree short of producing coma, will sometimes, under its transitory influence, become tranquil and docile.

In the detection of feigned Insanity, much stress has been laid by writers upon the suddenness of the attack, which, they say, distinguishes it from real Insanity, whose invasion is gradual. This point of diagnosis must be accepted, however, with much caution. We have known real cases of Mania manifest themselves with the utmost suddenness; we have known patients who went to bed apparently in good health, awake in a state of Mania; we have known patients become suddenly maniacal under the influence of exciting and denunciatory preaching, and during other conditions of intense temporary excitement. Doubtless, in all these cases the brain was previously prepared for the sudden explosion, but the symptoms of latent disease had not been of a nature to attract any observation; and therefore, in a diagnostic point of view, the sudden outburst of real Insanity must be accepted as possible.

The most important diagnostic point of feigned Insanity is the want of coherence in its manifestations, not only with mental disease in general, but with the form or variety of Insanity which is feigned, in particular. Thus not only, as before stated, does the feigner overdo the intellectual perversions and absurdities, and the outrageous or irrational conduct of Insanity, to the neglect of emotional disturbance; but he mixes the various forms of Insanity together. Thus, in Monteggia's case, the patient vacillated between Melancholia, exhilarating Insanity, and complete Dementia. In the case of William Warren, the symptoms, when he was first in prison, were those of Mania; at the asylum, they were those of Dementia; and, on his return to prison, they were those of mixed Mania and Dementia. In Jakes' case, the clever imitation of Dementia following apoplexy was injured by the introduction of maniacal symptoms, such as the eating of his own ordure.

To deceive a skilful alienist, who takes pains patiently and fully to investigate the case, the simulator of Insanity must, if he displays any active symptoms, not only have carefully observed the symptoms of those who are truly insane, but be able himself to represent those symptoms, with powers of imitation which are possessed by few. How hard it is on the stage, and for a few minutes only, for a man to represent the manners of a sailor, a peasant, an old man, or any other characteristic manners, so that the deception shall be acknowledged complete! But the histrionic powers of a feigning maniac or melancholiac must be kept for days and weeks on the stretch, in the representation of manners and modes of thought far more difficult to imitate than those which are usually the subject of histrionic art. Dr. Rush is reported to have discriminated feigned from real Insanity by the relative rapidity of the pulse; Dr. Knight and other writers have claimed the same power for the sense of smell. At the present day the deposits in the urine would, we suppose, be appealed to. Much reliance, however, is not to be placed upon any one, or even upon several, of the physical signs of nervous disturbance. They have a scientific, but scarcely a diagnostic value. They may serve to direct the inquiries of the physician, or even to confirm his opinion founded upon other data; but, standing by themselves, they are of little importance in the diagnosis of Insanity.

The Diagnosis of Concealed Insanity (*insania occulta*) is to be made on the general principles laid down in the previous pages. Some patients are to be met with who converse and reason well on all subjects except those connected with some delusive opinion. One of the most remarkable instances on record is that of a man named Wood, who brought an action against Dr. Munro for false imprisonment, and underwent the most severe examination by the defendant's counsel without exposing his disease. Dr. Battie suggested to the judge (Mansfield) to ask him what was become of the princess with whom he corresponded in cherry juice? and immediately a whole group of delusions became apparent. Wood indicted Dr. Munro a second time, for false imprisonment, in the city of London, "and such," said Lord Mansfield, "is the extraordinary subtlety and cunning of madmen, that when he was cross-examined on the trial in London, as he had successfully been before, in order to expose his madness, all the ingenuity of the bar, and all the authority of the court, could not make him say a single

syllable upon that topic which had put an end to the indictment before, although he had still the same indelible impression upon his mind, as he had signified to those who were near him; but, conscious that his delusion had occasioned his defeat at Westminster, he obstinately persisted in holding it back." This and other cases which might be quoted, refute Heinroth's assertion, that although patients can *conceal*, they never can *deny* their fixed ideas. Doubtless, in the majority of cases, Heinroth's opinion is correct; and people who, when sane, were not remarkable for veracity, who would not indeed scruple to utter any amount of falsehood whenever their interest seemed to require it, overlook every advantage, and stand at no absurdity or disgrace, when they have a delusive idea to maintain.

The first principle of interrogation, in ranging the mind for a delusive idea, is to converse freely and naturally with the patient on the subject of all his relations, his relation to God, to his neighbour, including his wife, parents, his children, those in authority over him, and those over whom he may have authority; his relation to property, his indebtedness, or his fortune; his profession, his ambition, his desire of wealth or of rank; his bodily health, his studies, his amusements, his history. Heinroth proposes that the physician should narrate the patient's own history disguised as the history of the physician, in order that the patient may suppose a parallel between his own case and that of his examiner, so that the *dulce habere socium malorum* may elicit circumstances which he would otherwise have concealed (Wharton and Stillè). This round-about proceeding would, we fear, in most cases, tend rather to excite the suspicions than to elicit the confidence of the patient; still, if the patient refuses to talk of himself the physician has no option but to talk of himself, or of third persons, and by the expressions of opinions likely to be challenged by the patient, thus to draw him into discussions which may eventually betray the morbid train of thought. If the patient is much below the social rank of the physician, assistance may be often obtained from persons of the patient's own position and modes of thought. A man whose ideas revolve in the narrow circle of a peasant's uncultivated mind, will often put himself into a mental posture of silent and sullen antagonism to all persons whom he considers above him, while he will expand and communicate freely to his equals and ordinary associates. Frequently

in asylums it is found that the insane discover the delusions of the insane more rapidly than others can do.

If the patient can write, he should always be freely encouraged to do so. Insane patients, it is true, often write letters which bear no impress of their delusions. Men who constantly converse and act irrationally, will write letters on matters of business with good sense and precision. But the converse of this is sometimes observable; and patients who, in conversation, adroitly conceal their delusions, display them with freedom in writing. We have, for many years, had a well-educated man under our care, who can never be brought to converse on his delusive ideas. When pressed he adroitly turns the conversation, or he states his opinions in such a form that they could not be called delusive; that is, he not only conceals, but, to a certain extent, he denies his fixed ideas. Once a month, however, he presents us with a long and closely-written letter, in which his delusions of persecution, forced marriages, &c., are abundantly apparent.

Another patient of ours, a barrister, so completely concealed and denied his delusions in conversation, that he succeeded in persuading his relatives, and especially his mother, a woman of rare intelligence and discrimination, into the belief of his perfect recovery from an attack of Mania, and of his capacity to resume his professional labours. During the whole of this time he was writing letters to relatives living at a distance, full of delusion relating to his supposed marriage with a servant, to the distribution of a large fortune which he did not possess, and to a yacht voyage to every part of the globe.

The conduct of the patient should be observed by night as well as by day. We have, for several years, had under our care a respectable tradesman, whose conduct and conversation, during the day, exhibit scarcely a trace of mental disease. He is industrious, sensible, and kind-hearted; and it is strange that his nights of suffering have left no painful impression on his pleasing features. At night he sees spectres of demons and spirits, at which he raves aloud, and prays with energetic fervour.

That it is important to test the memory and the capacity by examinations, repeated at various times, is shown by the case recorded by Sir H. Halford, in his Essays. A gentleman sent for a solicitor, gave instructions for his will, and told the solicitor that he would make him his heir; soon after this he became

deranged. After a month's violence, he was composed and comfortable, and manifested great anxiety to make his will. This request was evaded as long as possible, but at last consented to. The solicitor received the same instructions as before, the will was drawn, and it was signed by the physicians (Sir Henry Halford and Sir George Tuthill) as witnesses. After leaving the room, and conversing on the delicacy of their situation, the physicians returned to the patient's room, and questioned him how he had left his property. He mentioned the legacies correctly; but when asked to whom the real estate was to go, he said, "To the heir-at-law, to be sure."

Diagnosis of Recovery.—The foregoing pages have reference mainly to the recognition of the existence of Insanity, but we must not omit to notice the important question whether or no the mental disease, having existed, has or has not terminated? In most cases the solution of this question only bears upon the propriety of continuing or not the care and treatment under which the patient has been placed, whether in an asylum or elsewhere. But in other cases it involves the weighty consideration of whether the person who has been a lunatic shall or shall not obtain the restitution of his personal liberty and the control over his property, which have been taken from him as a lunatic by the action of the law.

Much that has been written in the above pages as to the detection of Insanity in its first invasion applies also to the detection of the remains of Insanity after it has run a certain course. But there are some considerations peculiar to the question as to whether the patient has or has not recovered.

In the latter inquiry the examiner will very generally have the benefit of fuller and more trustworthy information than in the former one, seeing that the mental disease, while it existed, has probably brought the lunatic under the observation of medical men from whom most valuable information will be derived. The effect of the treatment to which the patient has been subjected will also very generally be found to have diminished the independent spirit of resistance to the imputation of Insanity so often met with in a new lunatic for the first time. On the other hand, it is very likely to have promoted the desire and increased the ability to conceal perverted emotion and delusion.

The one point to determine, of course, is whether there is an absence of insane emotion and delusion, or of such weakness and decay of the functions of the mind, as would incapacitate the individual from conducting himself as a reasonable being and from taking care of himself and his property.

In many cases the right determination of this question is very delicate and difficult. Time is an element in it of great importance, since the premature removal of a convalescing lunatic from all care and treatment may be attended by most disastrous results, by danger to life, or ruin to property, or by a relapse from which recovery never takes place; while reasonable delay in the complete restitution of liberty of action and of social rehabilitation is rarely so important to a recovered lunatic, as the determination of the question of sanity or Insanity at the commencement. Though recoveries from mental disease are sometimes rapid, they are, perhaps, never sudden, and the history of the improvement, when it can be obtained from intelligent observers and still more so from the patient himself, will greatly assist the medical man in the formation of his opinion.

More than usual caution has to be observed when the patient supposed to have recovered denies the undoubted facts of his previous Insanity; but this can only be stated as a rule with many exceptions. Some recovered patients actually forget all the incidents of their mental disease. From the time when they began to sicken in their mental health to the time when they have fairly begun to recover, there has been a blank in memory, and it cannot be expected that such persons should admit past extravagances or incapacities of conversation or conduct of which they may be said to have no knowledge. Some other patients who have really recovered remember incidents of their past Insanity, insane conduct, and insane thoughts, in a manner very different from the remembrance of sane persons. They look upon them through a medium out of which they have indeed passed, but which still exists to obscure or distort the retrospective mental vision. Such cases are very perplexing, but the physician has to consider that it is not the correct remembrance of past phases of mind, but its existing condition, upon which he has to determine the question of recovery, and, undoubtedly, a patient may have a most confused and distorted recollection of the events which occurred during his past disease and be able to give

but poor reasons and reflections about them, notwithstanding that he has really made a good recovery. Certainly it is infinitely more satisfactory when the patient can give a clear account of his past trouble, and when he can not only describe the course of events—the history of past insane thought and conduct—and can fully appreciate their nature, but when he also estimates rightly the conduct of others towards him during the time of his aberration and under circumstances which are rarely devoid of perplexity and distress.

When patients retain animosity towards those who have acted for them to the best of their ability during the troublous times of lunacy, a sense of injustice and sorrow may result, but this is not always a sure sign that recovery has not taken place. On the other hand, candid admission of the past mental aberration, and grateful acknowledgment of services rendered at its outbreak and during its course are, fortunately, the most frequent assurances of complete recovery.

Care should be taken lest when a recovered patient tells the simple truth, it should not be considered a delusion. We well remember the case of a young man who had an attack of Mania following a drunken debauch. He was placed in an asylum and his maniacal symptoms disappeared, but he related circumstances which occurred in the asylum which were held to be delusions. The course of events, however, made it apparent that they were not so, and he recovered his liberty a long time after it was due. It is needful in all these inquiries to discriminate between the impossible and the improbable. It is improbable that a sane English lady should habitually carry a dagger in her bosom; but Lord Shaftesbury, who knows more of lunacy than any other peer, was able to tell the House of Lords, in the debate on the Lunacy Regulation Bill, how a lady was certified to be insane on account of such an act, although she belonged to a class of ladies with whom at that time it was the fashion and custom to carry daggers to such an extent that the manufacture of ladies' daggers had become quite a business. Of course the poor doctor knew nothing of this new fashion and was thrown quite out of his calculations.

> "There are more things in heaven and earth, Horatio,
> Than are dreamt of in thy philosophy."

The man who told the torrid sultan of water being solidified by cold was deemed a lunatic; and Paul was thought mad because he had a new moral truth to tell. He who has to judge of other minds ought not, as Lord Shaftesbury well said, to be "*borné*" in his own knowledge of that which is possible.

After the examiner has satisfied himself that in the lunatic supposed to have recovered, there is no longer any trace of insane emotion or delusion, he has to pursue the difficult inquiry as to whether there is any weakness of mind left as the result of disease which amounts to incapacity.

The rule has been laid down that the test of perfect recovery is to compare the man with his former self, and if he is found to be in all respects of thought, feeling, and mental power as he was before the attack, the recovery is assured. But, practically, an important allowance has frequently to be made in the application of this rule, since it is certain that no man is quite the same after any formidable disease has run its course in him as he was before, and this is emphatically true of disease of the brain affecting the mind, and probably no man is ever quite the same after an attack of Insanity as he was before. Permanent change is frequently observed in the temper and feelings; less frequently it is seen in queer ideas and odd trains of thought which are not actual delusions and do not amount to the acknowledged symptoms of Insanity, but which justify the lively apprehension of relapse and which demand great caution in the entire removal of care and control.

The most frequent result, however, of past disease in a lunatic who has practically recovered is some weakness or infirmity in the intellectual functions. After a severe attack of Insanity of long duration this result would, no doubt, be invariably observed, if the dynamics of mind could be measured with the same accuracy as other forces. With our inefficient means of observation it is often not perceptible; often it is very slightly and doubtfully so to the medical examiner, when it really exists to such a degree as for ever to incapacitate the patient for active mental exertion or for keen emotional and social struggle in life. The results of a long and heavy lunacy in diminishing the powers of mind—the sequelæ of the disease in the direction of Dementia—are exceedingly difficult to detect in their slighter degrees, and when observed their value has to be weighed in the balance of practical common

sense, as to how far they will be likely to affect the safety and welfare of the individual when freed from care and control.

It would not be common sense but nonsense, for instance, to refuse to recognise the recovery of a lunatic because he was unable to solve a most difficult problem in arithmetic ; nor, on the other hand, would it be common sense to give control over property to a person in whom the deteriorating results of mental disease had destroyed all correct notion of the relative value of numbers. In examining such a person, an educated lady, who had become demented, she told us that the rent she paid for her lodgings was a £100 a year. We thereupon asked her what that would amount to a week. The reply which we hoped to elicit, of course, was that it would be about two pounds a week, but the lady was demented, and was utterly unable to say that, or to decide whether it would not be five or ten pounds a week or any other sum. The astute legal advocates of the lady's sanity made it appear at the Inquisition that our question was absurd, inasmuch as the accurate answer to the question involved the exercise of high arithmetical attainments. In reality, no question could have been more simple and commonplace than the one we put, considering the weakness of the mind which we were testing, and it is not easy to conceive a lower depth of sophistry than that to which the learned lawyers descended. On the principle they attempted to establish, no common-sense practical question could ever be put to a person of feeble intellect unless the questioner was prepared to give an answer himself which could not be debated. Suppose the right answer to the above question down to the high decimal of a penny had been given, the astute lawyer might have inquired how the examiner knew that it was correct, and how he had ascertained that the year contained so many days, hours, minutes, and seconds as to make it correct, and thus he might have led the unfortunate physician into the heights of astronomy as well as into the profundities of numerical science. What the physician has to do is to ask questions adapted to the capacity of the mind which he is examining; and the division of a hundred pounds into fifty or even into fifty-two parts was such a question as an educated person with mind unenfeebled by disease would have had little difficulty in answering. After all it is the physician who holds to the practical facts indicating mental disease, and the lawyer who ever attempts to subtilise them into vacuous sophistry.

Except in Inquisitions lawyers rarely have the opportunity of examining lunatics themselves, and probably this is the reason why they appear quite incapable of understanding how it is that physicians come to a very decided opinion, one way or the other, upon the consideration of a number of signs and symptoms, each one of which taken by itself may seem trivial. The lawyer is ever asking for a pathognomonic sign of lunacy, an infallible brand which cannot be mistaken. He asks the physician to show him the one distinguishing mark like the pustule peculiar to smallpox, and when the physician describes a group of symptoms which taken together can leave no possible doubt in any mind trained to understand the evidences of natural science, the legal logician takes each symptom by itself, and after proving that no single one of them all is a sure indication, he too often maintains the illogical conclusion that the combination proves nothing. The value of circumstantial evidence ought to teach him otherwise.

The symptoms of recovery are, first, a change for the better, more or less gradual, from the former state, to be observed by the examiner or ascertained from others. Then the symptoms which ought to be observed at the time of the examination are—

1st. A natural and healthy state of the emotions.

2nd. The absence of insane ideas or delusions.

3rd. The possession of sufficient powers of attention, memory, and judgment to enable the individual to take his part as a free member of society.

4th. Tranquil and reasonable conduct.

When these four symptoms of recovery coexist there can be no doubt that recovery has taken place. When any one of them is absent, the amount of aberration must be taken into consideration together with the history of the case in coming to an opinion. Thus, any strange notion which seems but the remains of a dangerous delusion ought to induce great caution. A man who has entertained the delusion that his friends have conspired to take away his life may appear sane in all respects excepting that he maintains that he has always been of sound mind, and that his friends have been harsh and mistaken in their treatment of him. Herein is just cause of suspicion and doubt of actual recovery. Another has become insane from Indian sunstroke, and has had several relapses. He appears now to be sane and sound with the exception of great irritability of temper. The case is very doubtful,

for these attacks from sunstroke are peculiarly liable to relapse and also to manifest passionate exacerbations.

The length of time which has passed without relapse is an important consideration, for it is often not so difficult to say that a man is fit to be free in his present condition as to prognosticate that he will remain so, the fear being that with enlarged freedom and stronger temptation to excitement, the present condition will not continue. The longer it has lasted and the greater the freedom of action which has been accorded, the smaller the risk which will attend the removal of all constraint.

Infinitely the most arduous cases are those in which the lunatic has been afflicted with Emotional Insanity, and especially with Homicidal or Suicidal Mania. A man cannot very easily conceal weakness or aberration of the intellectual functions from a patient and skilful examiner, but there is no way of getting at the real state of the feelings. A man may appear perfectly reasonable and intellectually competent, while from obscure disease of the brain he is under the terrible temptation to take away the lives of others or that of himself, and that without assignable motive. Tired of restraint and covetous of freedom, he may deny pertinaciously that such an emotional state continues to exist in him. How to ascertain the truth in this matter we know not. We only know that painful experience has taught us extreme caution and distrust in such cases, and that long observation has convinced us that cases in which the tendency to homicide or to self-murder has been developed as a form of mental disorder very seldom recover.

A marked distinction ought to be drawn between such cases and those in which homicidal violence has been developed in the course of ordinary Mania. The madman who in a paroxysm of fury seizes a weapon and attacks his wife, his child, or his doctor may, and frequently does, recover perfectly, and the recovery is to be judged of on common principles, without reference to the accidents of violence which in many instances were the result of want of care and forethought on the part of those who were or ought to have been in charge of the lunatic. Unreasonable violence is a common incident in lunacy; the carelessness and ignorance only of the friends or attendants make it dangerous to life. But it is quite a different thing with the homicidal lunatic who has never been maniacal or furious. If the homicidal tendency has been connected with delusion, the disappearance of the delusion is to a great

extent an assurance of safety. But there are cases in which no delusion has ever been discovered, yet in which the motiveless propensity to homicide or suicide appears to be stronger, more irresistible and persistent than in any others. It is true that these cases usually have some concomitant signs and symptoms of disease, either strong hereditary tendency or sufficient accidental cause of brain disease accompanied by physical symptoms of brain and nerve disturbance and often by slight Dementia. These symptoms may disappear and yet the dangerous tendency remain. We hope never to be called upon to pronounce that such a person has perfectly recovered and is quite safe, for we know not on what grounds we should do so.

A physician who has large experience in lunacy will not neglect in doubtful cases to make inquiries in out-of-the-way and extraordinary directions. We have known lunatics who appeared sane during the day, yet who raved during the night. This is sometimes peculiarly inconvenient and embarrassing unless the physician can make arrangements to listen outside the lunatic's chamber door. We have known such a state of affairs alleged in a licensed house in explanation and support of the detention of a doubtful lunatic who, on removal to other care, suddenly ceased his nocturnal ravings and insane threats. Still it is a fact within our own observation that such cases do sometimes occur. Another curious fact with regard to lunatics who appear to have recovered is that in certain narrow directions and towards certain persons they are still insane. We know a lady whose conversation and conduct is perfectly reasonable towards all the world excepting towards her husband. In his presence she is no longer sane, and in his absence she writes to him a daily letter strongly marked with Insanity.

An examination of the letters of lunatics supposed to have recovered should never be omitted in doubtful cases. We have known several instances in which no aberration or defect of mind could be detected in the conversation or conduct, and yet the profuse letters of the lunatic were full of obscene abominations and monstrous delusions. We once gave evidence at an Inquisition at which an alleged lunatic defended himself before a jury with remarkable skill and acuteness, and of whom, from his behaviour and ability in court, no suspicion of Insanity could have been entertained. We produced a roll of his letters written down to the

very date and which teemed with delusions of conspiracies, obscenities, and miracles, and which proved the man as dangerous a lunatic as well could be.

Connected with the question of general Diagnosis of Insanity is that of Unnatural Crime, which in this country is so strange and uncommon as to lead to the supposition that persons guilty of it must be out of their minds. We have known instances in which persons who were simply criminals of this kind have escaped from the punishment which the law would have awarded them, by willingly availing themselves of the imputation of lunacy. In these cases the habit of unnatural crime had been acquired in foreign countries where it was common, and where its practice would certainly not have been considered a proof of lunacy. It is difficult to believe that any practice, however revolting, which is in common use in any country can be evidence of the lunacy even of strangers who are vicious enough to conform to it, and it is commonly believed that this crime which was habitual to the people who dwelt in the Cities of the Plain, is not less common in those countries of the south and east where these miserable Englishmen had contracted the contamination. They certainly were not lunatics, and the fact that they were allowed to find shelter under the lunacy laws was a proof of very fallible diagnosis.

The whole question of the relationship between crime and Insanity is too large and complicated to be entered on in this place. Perhaps no broad principles of general application can be laid down, nor the question ever be satisfactorily argued except on a concrete case. In such cases the thorough and honest examination of the criminal will decide the question of his state of mind at the time of the examination, although it will necessarily leave the difficulty of determining his state of mind at the date of the crime. A man may be of unsound mind when he commits a murder and quite sane when he is examined some weeks afterwards, or the contrary may happen. It is not often that a sane man commits a great crime on principles which he avows and adheres to and yet which sound so strange to the ears of law-abiding men that they suggest the idea of lunacy. Such was the case, however, in the instances of Victor Townley and of Constance Kent, who were both sane criminals. Townley destroyed himself in prison, and a sapient coroner's jury brought in a verdict of Insanity because it was impossible to them to conceive that any

sane man could be guilty of murder and of self-murder. In conjunction with the late Sir Charles Hood and the late Dr. Meyer we examined this criminal in Bethlem, and we were all thoroughly convinced that he was of sound mind. At this examination we asked him whether he thought that he would be justified in taking away his own life if he were tired of it, and he replied, "I think that when any man is unhappy and uncomfortable in this life and sees no prospect of change for the better, he is quite right to put an end to it." On this declaration and on study of his character we expressed to our colleagues our full expectation that he would commit suicide, and he did. This last act tended to make more clear the determined character and the godless principles of the man who had committed a deliberate and brutal murder, but it no more proved that he was insane than the calculated suicide of an ancient Roman or the happy dispatch of a Japanese would prove the same of either of them.

CHAPTER VI.

PATHOLOGY OF INSANITY.

The widely differing opinions which are entertained by the ablest physicians respecting the pathology of Insanity, clearly show that there is some difficulty at the bottom of the question, greater than that which exists in determining the nature of other classes of disease. The source of this difficulty is not hard to find. A rational pathology must ever be founded upon the basis of physiology. It is, indeed, a kind of physiology; it is an account of the abnormal conditions of organization and of function, which as much depend on the natural laws of our being as do those of health. Fair weather and foul equally depend upon the laws of meteorology. Health and disease equally depend upon the laws of animal life. The division of their study into two departments of pathology and physiology is, therefore, perfectly arbitrary, and useful only for purposes of classification. But the knowledge of the laws of aberration cannot precede, or even be contemporaneous with, the knowledge of the normal laws of action. The high-road of health must be well known, before the bye-ways and devious paths which surround it can be investigated.

Great advances have been made in the knowledge of the physiological laws of all organs of the body except the brain, and the increase of this knowledge ever indicates a closer relation to the obvious adaptation of each organ to the discharge of its function. The adaptation of the heart to the propulsion of the blood, the adaptation of the intestinal canal to the processes of digestion and nutrition, and of the lungs to those of respiration, are so obvious and so simple, that a positive knowledge of the laws of their action has been gained, and upon these a rational pathology of their diseases has been founded.

But it is quite otherwise with the noble organ which lords it over the rest of the body. The mass of that which we call nerve-

substance, because nerve-function is found to inhere thereunto, possesses no adaptation which we can trace to the ends to which it has been made subservient. An agglomeration of delicate cells in intimate connexion with minute tubes or filaments, which communicate impressions made upon the cells at one end, to those fibres and cells which lie at the other extremities; this is the nervous apparatus. Its *modus operandi* is, and perhaps always will be, utterly unknown to us. The knowledge that the different sets of nerve-fibres convey different impressions, is doubtless a fact of much practical importance, but it is far removed from any intimate knowledge of the laws of nerve-force. To claim for these minor details of the nerve-office the dignity of satisfactory physiological knowledge, would be as absurd as to claim the knowledge of an engine or machine, because we saw how the far off wheels acted upon each other, while of the engine itself we knew not whether its motive force was steam, wind, water-power, galvanism, or any other source of movement. But although the connexion between the nerve-function and nerve-organization is a secret which remains veiled from our most anxious scrutiny, still we are acquainted with many of the conditions which this connexion requires, and without which it is discontinued. We know that if that dominant nerve-mass—the brain—is not supplied with a due amount of plasma from the blood; or if plasma is supplied to it containing noxious substances, such as urea, or narcotics; or if it is subject to pressure, or receives a rude concussion, or if it is over-stimulated and deprived of due repose, its functions are interrupted or perverted. In default, therefore, of real knowledge respecting the conditions of nerve-function, we must be satisfied with the recognition of the fact, that the great organ of this function is subjected to the general laws of decay and reparation of animal tissues, and to some other laws having special reference to its own degeneration and repair. It is upon this physiological basis only that, in default of more precise and extensive knowledge of the changes in the nerve-cell and the generation of nerve-force, cerebral pathology can be established. *The one physiological principle upon which we have to build a system of cerebral pathology is, that mental health is dependent upon the due nutrition, stimulation, and repose of the brain; that is, upon the conditions of the exhaustion and reparation of its nerve-substance being maintained in a healthy and regular state; and that mental*

disease results from the interruption or disturbance of these conditions.

If we are certain of any one fact in the physiology of the nervous system, it is, that nerve-force is generated in or by the vesicular neurine, and that the tubular or fibrous neurine conducts it. But, what is the nerve-force of the brain? and in what manner is its vesicular neurine active? The result of its activity we know, namely, the ability to receive sensations of all kinds; the power of comparing these sensations, and of storing them for comparison; the power of combining these sensations in new arrangements, of imagining,—not, indeed, new sensations,—but new combinations of them: the power of feeling emotions and propensities.

The activity of the vesicular neurine of the brain is the occasion of all these capabilities and powers. The little cells are the agents of all that is called mind, of all our sensations, thoughts, and desires; and the growth and renovation of these cells are the most ultimate conditions of mind with which we are acquainted. If there be more profound conditions, they are beyond our ken, and, so far as we know, there is no better sanction for their existence than the fantastic alliance of spurious physiology and visionary metaphysics.

Recent researches indicate the existence of a remarkable and complex *apparatus* of cells in the cortex of the cerebrum and cerebellum, most resembling the granular and bacillar layers of the retina, and which Virchow thinks "very likely stand in some close connexion with the psychical functions." The great pathologist, indeed, entertains little hope that any positive knowledge of the *modus operandi* of this apparatus will be acquired. We merely see more of the machinery, without knowing better how it moves.

The ultimate condition of mind with which we are acquainted being the due nutrition of the brain-cell, it is of the utmost importance to have a clear idea of the manner in which this is effected. The grey substance of the human brain contains millions of vesicles, lying in a semifluid granulated substance (stroma), and bound together by a minute network of capillary blood-vessels and fine areolar tissue. Now, the fundamental truth of physiology being the activity of the cell, and this activity being accompanied by its decay, and demanding its renovation; the markworthy points in the relative position of the brain-cell are,—First, its relation to the nerve-fibre, from which it receives

and to which it conveys impressions, the taking and giving of which are the main causes of its exhaustion; secondly, its relation to the blood capillary, which exudes a plasma in which the cell is bathed and renovated, and from which new cells are formed to replace those which are finally exhausted.

With regard to the first of these relations, so far as the individual cell is concerned, it would appear, that morbid results could only arise from stimulation so excessive as to hasten the progress of decay beyond the powers of reparation. With regard to the second relation, a crowd of circumstances may occur to interrupt or prevent the growth or reparation of the cell. All states, either physiological or pathological, of the cerebral cell, are occasioned by influences impressed upon it, either by the nerves or the blood-vessels, with which it stands in such intimate relation. Whether any changes can be self-originated is doubtful. The laws of its life, transmitted to the cell from the parent organism, include, indeed, the conditions of perpetual change, but the cause of change must be sought for in the nerve or the capillary.

At one time it was the custom to regard diseases as distinct entities, which were capable of being expelled from the body by the art of the physician. To this period succeeded one in which every disease was viewed as a single pathological action. Mental diseases were once thought to be occasioned by evil spirits, which could be exorcised; and by many persons, even at the present time, they are attributed to diseases of the "spiritual essence," or to other conditions pertaining to the mysteries of ontology. An error more recent, and which even now prevails widely, is to refer Insanity to some one or other of the pathological conditions of which the appellations are in the mouths of all men, but the nature and relations of which are appreciated by few. Thus, some attribute Insanity to irritation, others to exhaustion, others to inflammatory action; and these absurdly narrow views are even entertained by medical men who would be quite incapable of attributing all diseases of the stomach or the lungs to one sole pathological state. What would be thought of a physician who, at the present day, should deliberately argue that all diseases to which the lungs are subject are inflammatory; or that all dyspepsias are the result of irritation or of nervous exhaustion? Yet the prevailing methods in which mental diseases are treated

of by physicians, who are too enlightened to submit their intelligence to the theories of spiritual essences, and other exploded absurdities, are of this kind. One able physician attributes all Insanity to nervous exhaustion, while another refers it to congestion and the earlier processes of inflammation, and a third to irritation.

The broad view of the production of Insanity appears to be this: *The brain, like every other organ of the body, for the perfect performance of its functions requires the perfect condition of its organization, and its freedom from all pathological states whatever. Consequently, the existence of any pathological state in the organ of the mind changes its healthy functions, and produces a greater or less amount of disease of mind—that is, of Insanity.*

Such is the foundation of the pathology of Insanity which we maintain, and of which the particulars will be elucidated hereafter. At present, some attention must be paid to the definition of terms and to the preliminary explanation of views. And first, when we speak of the brain as the organ of the mind, we mean that portion of the cerebral mass which physiological experiment, and observation upon the dead, amply prove to be the seat of mental function. We do not include in the term those portions of the brain lying at its base, which are acknowledged to be but a prolongation and development of the excito-motory and spinal nervous apparatus, Experiment and observation, in our opinion, prove, beyond doubt, that the seat not only of the intellectual, but also of the emotional functions of the brain, is in the convolutions of the cerebrum proper, while the cerebellum and the central masses of grey matter are probably subservient to motion, excited either by the desires, or by impressions upon the nerves of sensation, or upon those of excito-motory action. It is also sufficiently proved that the medullary substance of the brain, forming so large a portion of its mass, is merely a conducting medium. Pathological conditions may exist in this white substance, in the cerebellum, the corpora striata, and thalami, without affecting the mental functions. Sensation and motion will be affected by them; but judgment, memory, and emotion may be left intact. It is true that diseased conditions which affect the mind, also frequently, nay, commonly, affect the lower functions of the nervous system. The state of the muscular system has even been called "the pulse

of Insanity;" but the state of these functions in Insanity does not commonly amount to that degree of aberration from the natural functions which we should be justified in calling disease, if it existed by itself. The muscular activity is frequently excited or depressed, but only in exceptional cases is it perverted and irregular. Moreover, in a great number of instances of Chronic Insanity, the motorial function is in nowise affected. Diseased action, therefore, may be strictly limited to that portion of the brain in which the mental functions are enthroned, and which, by the process of reasoning by exhaustion, is shown to be the grey matter of the convolutions.

On the other hand, disease may affect and be limited to those portions of the cerebral mass which either conduct impressions to or from the seat of mind, or which subserve the function of muscular activity. In this manner, cerebral paralysis of various kinds may occur without mental disease. Circumscribed effusion of blood in the white substance of the brain often produces loss of mental function when it first takes place, from the pressure which it exerts on the grey matter of the convolutions. But when the mischief occasioned by this pressure has been removed by the adaptation of the blood in the cerebral vessels to the contents and capacity of the cranium, the powers of mind return, while those of motion remain injured until the integrity of the torn substance be (if ever) restored. Lesions, or pathological conditions of the conductive or motive parts of the brain, frequently propagate themselves to the seat of the mental functions; and active pathological states of the latter seldom exist without implicating, to a greater or less degree, the integrity of the former. They are parts of the same organ, essentially different, indeed, in function, but so intimately connected, that pathological conditions readily extend themselves from one to the other, both by continuity and by sympathy. All these points of difficulty being admitted, the important fact remains, that *diseased conditions which affect the mental functions must have their seat in the grey matter of the cerebral convolutions;* and in speaking of disease of the brain in relation to Insanity, we desire, therefore, to be understood as speaking of the cerebral convolutions alone, unless where the contrary is expressed.

We shall take the present opportunity to state, with distinctness, our views of the nature of pathological conditions, not only

of the brain, but of all the organs of the body. Diseases have commonly been distinguished into those which are organic and those which are functional. At first the distinction arose from the fact, that in some instances diseased organs presented obvious and palpable changes of structure, while in other instances they presented no such changes. Diseases which our forefathers called functional, because the rough examinations with which they were content made them acquainted with no changes of structure, have been made known to us by the aid of the microscope as strictly structural diseases. For example, fatty degeneration of the heart and epithelial desquamation of the uriniferous ducts are structural diseases to us; although a short time ago these conditions were regarded as functional. Facts of this kind would of themselves be sufficient to create distrust in the theory of functional disease; but many accomplished physicians still maintain that abnormal vital phenomena may be, and are likely to be, occasioned by dynamic aberrations alone, and that such phenomena are correctly designated as functional disease. We cannot concur in this opinion; and we perfectly agree in the justice of the observation made by the great German chemist, that "everything is specific which we cannot explain; and dynamic is the explanation of all which we do not understand; the terms having been invented merely for the purpose of concealing ignorance by the application of learned epithets."—('Liebig's Chemistry of Agriculture.')

What is called force, of every description, is connected with, and dependent upon, changes in the atoms of matter. Force is the hypothetic agent which underlies the phenomena of material changes; and to affirm that dynamic modifications of vital functions may exist without alterations of material organization, is to ignore the fundamental principles of philosophic physiology. All disease, therefore, in our opinion, is organic. Not only is this so with diseases which often come under the common observation of the physician, without leaving traces of organic change—asthma, for instance, and angina, and epilepsy—but mental and nervous diseases also, of every kind and form. Not a thrill of sensation can occur, not a flashing thought or a passing feeling can take place without changes in the living organism; much less can diseased sensation, thought or feeling occur, without such changes; changes which very frequently we are not able to detect, and which we may never be able to demonstrate, but of which we are, neverthe-

less, certain. For whether we adopt the theory that the states and things which we call heat, electricity, vitality, &c., are distinct entities, or what is called imponderable matter; or the far more probable theory that they are only phenomena belonging to ordinary ponderable matter; an atom or a cell surcharged with electricity or heat, or in a state of chemical activity, is essentially in a different condition from a cell or an atom in chemical or electrical equilibrium with surrounding substances. Alterations, therefore, of what are called dynamic force cannot exist without corresponding changes in material condition, and if it were possible to suppose that the cells of a living structure, in a state of disease, can only differ from the cells of the same structure in a state of health, by an alteration in their electric states, this will in itself constitute a difference of material, capable perhaps of being readjusted. Although it may hereafter be proved that all forces are not merely correlated but identical, there is as yet small ground for supposing that vital force and electrical force are the same, or that anomalous action of living bodies ever depends upon the mere distribution or activity of such force. The only force capable of explaining any of the phenomena of life is the chemical one, and this only in a state of constant activity and interminable change. In a state of health such change takes place within a range the limits of which permit beneficial and restrict injurious action; in a state of disease the range of chemical change is widened or contracted, so that mischief results from excess of action, or the well-being of the organism is lost by deficient action. In either case, the chemical composition of the cells cannot fail to be altered from the standard of health; and alteration of chemical composition with or without changes of density is the real groundwork of organic disease, since it invariably interrupts the healthy function of the part affected. Those abnormal states which depend upon an altered condition of the blood are not less strictly organic than all other diseases; for not only can no change take place in the composition of the blood, without in some degree affecting all the parts which are nourished thereby, but this fluid is, strictly speaking, itself a living cellular organism, and every change which takes place therein is organic.

It may seem superfluous, after having expressed our opinion that the noblest functions of the healthy nervous system are invariably accompanied by organic changes therein, that we should

argue such changes must exist when the functions are performed abnormally. It is true that the greater proposition, that function is always accompanied by organic change, includes the lesser proposition, that diseased function is so accompanied; but the latter has a difficulty to contend with, from which the former proposition is free,—it has to oppose and subvert a long-established erroneous theory.

Nosological arrangements and classifications are, to a great extent, natural, but they are influenced by the arbitrary laws of custom and convenience. It is thus that the class of diseases grouped under the general term of Insanity has been framed to exclude the delirium of fever, of cerebritis, and other diseases of an acute form. A strictly natural nosology would, doubtless, include, under the term, all diseases of the cerebrum proper accompanied by aberrations in the mental functions; but inasmuch as such aberrations are a frequent concomitant of a large proportion of cerebral diseases to which man is subject, it becomes necessary to restrict the term Insanity to those forms of disease in which alterations of the mental functions are not only a constant but a prominent symptom. While, however, the convenience of this restriction is acknowledged, it would, in an investigation of the pathology of Insanity, be most unwise to overlook those occasions of mental disturbance which take place in the course of other diseases. We often go abroad to gain accurate information and opinions on that which is taking place at home; and the special student of Insanity will do well to study the causes of delirious thought and perverted feeling in all classes of bodily disorder where they are observable. If he studies Insanity alone, he will be apt to fall into the common error of attributing its causation to some single pathological state, and his views will be as wrong as they are narrow. But if he studies perverted feeling as occasioned by gouty or hepatic disease, or loss of intellectual power and fatal coma occasioned by suppression of the urine and the delirium of fevers, he will be led to appreciate the full extent of blood change in the production of purely mental affections. In the delirium of cerebritis he will see a form of Insanity undoubtedly produced by inflammation; and in delirium tremens he will see another form of Insanity, as undoubtedly produced by nervous exhaustion. He will thus be enabled to reject exclusive theories of Insanity, and be prepared to admit the truth of the broad principle—that

Insanity may be occasioned by any and every pathological state which is capable of taking place within the substance of the brain.

The pathological changes which are capable of taking place therein are to be learnt from a study of the causes and symptoms of mental disease, from the effects of remedies, and from the *post-mortem* appearances. Some preliminary foundation for this study may be provided by a consideration of the influences to which the organ of mind is obnoxious, tending to interrupt or defeat its functions. Sane mind being the result of the normal and physiological action of the brain, unsound mind is the inevitable consequence of its abnormal or pathological action. To what pathological actions, then, is it liable? As an organ abundantly supplied with blood-vessels, it is obviously liable to all abnormal conditions which irregularities in the quality or quantity of the blood, and the relation thereof to its tissue, can occasion; it is liable to anæmia and to hyperæmia both passive and active, and to the latter accompanied by organizable and unorganizable exudates. It is also more readily acted upon by various chemical changes in the blood than any other organ. Excess of carbon or defect of oxygen tells first upon it; and many substances in the blood which affect other organs little, or not at all, affect this noblest of the organs with intense force. All diseases, therefore, which depend upon the movement or quantity of the blood, and many of those which depend upon its quality, are the fruitful source of abnormal cerebral conditions. The brain is also liable to a species of disturbance, apparently quite unconnected with the quality, quantity, or movement of the blood, a species of disturbance to which other organs are liable only in a modified and unimportant degree. We allude to the disturbance caused by sympathy with injuries of, or noxious influences applied to, peripheral portions of the nervous system. Moreover, the brain is liable to conditions of exhaustion to a far greater extent than any other organ. Other organs, when overtasked in the performance of their functions, either refuse to discharge them, or gradually gain such increase of power, that they are at last enabled to accomplish the task imposed. Overtasking the stomach destroys appetite, and the task is no longer imposed. Over-working the muscular system does not break down that system itself, but the nervous system, with which it is so nearly connected; or if hard work is within the limits of health, the muscles gradually develop by exercise, and eventually

overcome the difficulty. The overtasked lungs throw part of their burden upon the vicarious action of the liver, and the overtasked liver is relieved by the kidneys. But the over-wrought brain finds no help-mate in the economy of the organism; it must bear its burden alone, and suffer or succumb according to the disproportion between its task and its energies. Exertion of the brain, if kept within due limits, is followed by sleep, a state of repose peculiar to itself; but, carried beyond these limits, the excitement of its functions, while it produces rapid exhaustion of power, also renders the organ incapable of such repose and renovation. Over-work produces exhaustion accompanied by excitement, which continues the over-work and acclerates the exhaustion. Thus the degeneration of tissue goes on in the organ in a ratio of rapid increase, and organic decay is occasioned,—sometimes quickly fatal, but more frequently resulting in permanent atrophy of the organ, with perversion and degradation of its functions.

That the disease commonly known as insanity does not result from inflammation of the brain, must be accepted only as a nosological but not as a real truth, since cerebritis and meningo-cerebritis are undoubtedly accompanied by profound disturbance of the cerebral functions so long as they last. But many authors have asserted that mental disease, going on from week to week and month to month, is occasioned by inflammatory action of a certain kind in the brain substance. Broussais, who was the great advocate of this theory, was compelled by the absence of inflammatory products in the brains of persons dying insane, to acknowledge that this action was of a *sub*-inflammatory nature. Guislain, however, says, that in some rare cases he has observed the arachnoid to be actively inflamed, presenting the appearance of the inflamed conjunctiva; and some recent English writers on the same subject, believing that the injected membranes become pale by post-mortem change, have expressed their conviction that such appearances might be observed if the brain were examined immediately after death. We have never observed any appearances, either in the meninges or the convolutions of the brain of a person dying insane, which we could attribute to the existence of recent acute inflammation. We have, however, in numerous instances, observed unequivocal marks of inflammation not of a recent date.

Moreover, the history of the causation of many cases of insanity

leads to the conviction, that although inflammation may not be the actual condition of insanity, it is not unfrequently its cause. In such instances the course of events is as follows:—A man receives a blow on the head, or some other cause of inflammatory action. In a recent case, which has been under our care, the exciting cause was a stroke of lightning. Immediately after the injury, pain and febrile excitement indicate the existence of inflammatory action. If this inflammation were to extend, the patient's life would be in the utmost danger. But in the instances under consideration, either the slightness of the injury, or rest and treatment, localises the inflammation, and its symptoms soon disappear. After the lapse of a period which varies from ten days to three or four weeks, the patient again becomes sleepless, irritable, suspicious, and fretful, easily excited to anger, always in motion; and soon delusions appear and an acute attack of insanity declares itself. Such cases are not unfrequently fatal: they are accompanied by great violence and long-continued insomnolence, and are apt to terminate in an exhaustion of the powers of life, expressed by the sudden or gradual failure of the heart's action. On examination after death, appearances of local inflammation in the meninges and convolutions are observable. We cannot think that the symptoms of insanity are in such cases occasioned by the inflammation. It is most probable that the inflammation is not the condition of insanity, but is the exciting cause of a secondary pathological state upon which the symptoms of insanity immediately depend; just as the symptoms of abscess in the liver may be caused, but not conditioned, by ulcerations in the intestines. What the actual state of an organ is, the functions of which are disturbed by the presence of inflammatory action of a small portion thereof, it is not easy to determine. In the loose employment of terms, which continues to be one of the greatest obstacles to the advancement of exact medical knowledge, the condition of such an organ would be confidently stated to be one of irritation. But irritation properly defines a cause, and not a state. Irritability is a state of organic structures rendering them liable to be acted upon by irritating causes, that is, by irritation; and passing, when so acted upon, into a second state, that of excitement. When the cause of organic excitement is normal, and the organism is sound, the phenomena are regular, and bear a certain definite, or, so to say, symmetrical proportion to each other. But when the causes of

excitement are abnormal, its phenomena are irregular and disproportioned. The excitement of an irritable nervous system, occasioned by a wound or other lesion, manifests itself in spasmodic action of various kinds; while healthy excitement, occasioned by the natural stimuli, results in a regular activity of the muscular and other organs of the body. Now the presence of a small portion of brain, recently inflamed, acts as an irritant upon the remainder of the organ, producing therein abnormal excitement, which manifests itself in an irregular and disproportionate activity of its functions, that is, in symptoms of Insanity.

Such is our view of the influence of true inflammation in the production of mental disease. We must, however, guard ourselves from being understood to offer the term "irregular excitement of the cerebral functions," as anything more than a verbal formula for the expression of a series of phenomena with several links of which we are little or not at all acquainted. A small ulcer in the mucous membrane of the stomach sometimes deranges all the functions of the viscus; a blow on the head causes vomiting; in either instance we know not how; but we refer the fact to others of a similar nature, tabulated under the terms of sympathy or irritation; that is, we provisionally formulate our knowledge. In doing so, we act in accordance with unexceptional methods of philosophising, if we fully and constantly estimate verbal formulas for what they are, and do not permit ourselves to recognise in them the undiscovered truths which they provisionally represent. It is probable that the state of brain occasioned by the irritation of an inflamed portion, is that of active, but unequal congestion. This probability arises from the well-known fact observable in those parts of the body which present themselves to the sight (a hand or an eye for instance), that inflammation of a small portion is accompanied by active congestion of the remainder. The inflamed part disturbs, in some way or other, the normal balance between the contraction of the capillaries and the pressure of the blood. It has been hypothetically assumed that the manner in which this is effected, is by the abstraction of the nerve power of the capillaries; or, to speak with a less amount of hypothetic guessing, and to omit the influence of unascertained *power*, it will be sufficient to say that every local inflammation not only destroys for a time the contractility of the capillaries in the part affected, but that it also greatly diminishes their contractility in surrounding tissues. And this brings us to

the consideration of the influence of congestion of the brain as a cause and condition of Insanity; general inflammation of the brain being neither—first, because the undoubted appearances of general inflammation are not observed in persons dying insane; and, secondly, because the consequences of general cerebral inflammation are inconsistent with the phenomena of a chronic disease. Such a state, if not speedily removed by active measures, is fatal in a few hours or days. But it is otherwise with general congestion of the cerebral convolutions; this condition is consistent with the phenomena of a chronic disease, and it is actually and frequently observable in the bodies of persons dying insane. The consideration, therefore, of its causation, its nature, and phenomena, is of the highest importance. We shall not attempt to divide congestion of the meninges from that of the convolutions themselves; for although the congestion of the former may sometimes be very obvious, while that of the latter is very doubtful, their connexion with that membrane which in mental diseases is most worthy of consideration, namely, the pia-mater, is of so close and intimate a nature that it is plainly impossible for it to be congested without a corresponding condition existing in the capillaries of the grey matter of the convolutions.

Preliminary to the consideration of cerebral congestion as a state of disease, it will be worth while to review the states of congestion which do not actually partake of that character. Systematic writers have distinguished various states of the capillaries in which they contain more blood than natural, under the terms of determination of blood, plethora, active and passive congestion or hyperæmia, &c. These all appear to be varieties of the same condition, namely, enlargement of the capillaries, with retarded but not obstructed motion of blood through them; and the slighter degrees of this condition are consistent with, and, indeed, are dependent upon, the healthy activity of the organs. Dr. Watson says, "Local plethora may be predicated of a part which contains more than its share of blood." The mucous membrane of the stomach contains more than its share of blood during the process of digestion, and is therefore plethoric. If the organ is weak, and if the stimulus of food is applied too frequently to it, the transient condition of healthy plethora passes into that of morbid congestion, and pain, spasm, and morbid symptoms result. The exact counterpart of this takes place in the brain; the changes which

result from the active exercise of its functions attract to its capillaries a greater share of blood, and constitute a transient and healthy state of local plethora. But, if the brain is weakly organised, and if the stimulus of the work is continued beyond due limits, the state of plethora is prolonged and augmented, and the first symptoms of morbid congestion display themselves. There are few students who are not practically conversant with the slighter symptoms of cerebral congestion. Absorbed in some intellectual pursuit, the student's head becomes hot and painful, and his brain even feels too large for his skull. With exhausted powers of thought and attention, he retires at a late hour, as he hopes, to rest, but he finds that he cannot sleep; or if he does sleep, his repose is unrefreshing, and disturbed by dreams. An hour's freedom from thought, before retiring to bed, would have enabled the partly congested brain to recover itself, and this would have been aided by taking a glass or two of wine, which would have tended to relieve the distended capillaries, by utilising the remainder of the nervous force. It was long ago pointed out by Dr. Billing, that an alcoholic stimulant taken at bed-time by a man with an exhausted and by one with an unexhausted nervous system, will produce contrary effects: it helps to relieve the congestion of an exhausted brain; in the unexhausted brain, on the other hand, it tends to produce congestion, feverishness, and sleeplessness; just as diluted tincture of capsicum relieves the congestion of a frog's foot, but applied to the capillaries in their normal state, it causes them to congest.

The condition of the cerebral capillaries during sleep is yet much disputed. Dr. Hughlings Jackson and Mr. Durham have given us reasons in support of the theory that during sleep the brain is anæmic; but Dr. Cappie, the latest writer on the subject, maintains the theory that sleep is attributable to pressure on the brain consequent upon engorgement of the veins of the pia mater. The production of drowsiness succeeded by coma when nervous congestion of the cerebral vessels is produced by intense cold is a strong argument in favour of the view that sleep is accompanied by venous congestion, although it is quite possible that the arterial flow may at the same time be diminished. During sleep, however, the cerebral capillaries are not, at least, in that state of active congestion which is the physiological condition of the capillaries of organs in a state of high functional excitement. We have else-

where propounded and maintained the theory, that the brain-cells derive nutritive renovation from the blood, principally or entirely during sleep. It would seem probable that in the physiological state, the brain is liable to determination of blood from two causes, or rather for two purposes; during waking, for the purposes of functional activity; and during sleep, for the purposes of nutritive repair; and there are symptoms which indicate the existence of a congestive state of the brain after sleep. If its duration has only been sufficiently long to repair the exhausted energies of the organ, and if the individual be in a state of sound health, the symptoms of congestion on waking are imperceptible. But in heavy sleepers, and after sleep prolonged beyond the necessities of the body, the period of waking presents some curious phenomena of congestion. During this state, dreams are common, and the individual is concious that he is dreaming. Hallucinations present themselves to the senses of sight and hearing, which the half dreamer recognises as such. There is, moreover, a sense of weight, tension, and throbbing in the head, which is not always got rid of until some time after waking is complete. This state has been referred to by the alienists of France, as presenting a very close resemblance to the mental phenomena of Insanity. It wants, however, the element of emotional disturbance, for dreams of this kind are mostly sensorial. Doubtless, this and all other states in which the mental faculties are exercised in a partial and irregular manner, have a certain similitude to the phenomena of mental disease; but it seems unwise to push the comparison too far, as the French alienists appear to have done, in declaring the state of dreaming to be identical with that of hallucination from Insanity.

The phenomena of intoxication present us with another example of impairment and irregularity of the mental functions, probably referable to cerebral congestion. This example, however, is liable to the objection that the phenomena result from a poison in the blood, acting upon the brain. This objection does not appear to be well founded, for the following reasons:—Persons habituated to the use of alcohol can take large quantities of it without experiencing any injurious effect upon the mental faculties. This would not be the case if it acted directly as a poison upon the brain-substance; for it is observed that substances which do act in such a manner, do not lose their power over the mental faculties

by habitual use. The most habituated opium-eater dreams dreams and sees visions under the influence of his drug, even to a greater degree than a beginner. Moreover, many narcotic substances, which produce very remarkable effects upon the mental faculties, do so without any appearance of cerebral congestion. Stramonium, belladonna, and aconite, may especially be mentioned as examples of this fact. These substances, which act without causing congestion, always produce their effects when they are taken; but the effects of alcohol are most uncertain. A quantity, which in some men will produce little or no alteration of mental activity, will in others occasion the greatest and most irregular excitement of thought and feeling. And this difference exists not only between men who are habituated to its use and those who are not, but among those of sober and temperate habits. Moreover, in certain states of the system, as in typhus, the largest quantities of alcohol may be taken without producing one symptom of intoxication. In such states its whole force is expended in sustaining the flagging energies of the nervous system, and if it tends to occasion cerebral congestion it is pernicious.

The phenomena of alcoholic intoxication, therefore, we hold to be in great part due to the cerebral congestion which it occasions; and these phenomena appear to us to present a far closer resemblance to those of Insanity than any of the states of dreaming, or of partial and irregular sleep. The phenomena of intoxication are unfortunately familiar to every one; they vary greatly, however, according to the nervous organization of the drunkard, and according to the form and vehicle in which the alcohol has been imbibed. The sottish, swinish drunkenness of an English ploughman, with his stomach full of sour beer, is quite a different thing from the mad inebriation of an exciteable Frenchman on fire with eau de vie. In the former, drunkenness consists more in partial palsy of the muscles and oppression of the brain, than in anything deserving the name of excitement. In the latter, exalted and perverted sensation, flighty imagination, blind passion giving way to maudlin sentiment, a general and violent stimulation of the mental faculties, are the obvious characteristics of the condition; and they so closely resemble the phenomena of Insanity, that while they last they may be said to be almost identical therewith.

If, therefore, alcoholic intoxication is the result of active

cerebral congestion, and if its phenomena so closely resemble those of Insanity, that, considered apart from their cause and the condition of the stomach, they frequently cannot be distinguished therefrom, a strong probability is established, on the principle of referring like phenomena to like cause, that one pathological cause of Insanity is that of active cerebral congestion. Such congestion is, doubtless, not uniform throughout the organ. "In the normal, nutritive conditions, a certain uniformity is found to exist; that is, a uniform distribution of the nutritive material, whence both the central and the peripheral organs are developed." (Wedl.) But, in abnormal conditions of the circulation, this uniformity of distribution no longer exists; and, in anæmic or hyperæmic conditions, the functions of a compound organ are thrown into a state of unequal excitement or depression. In simple congestion of the organs, "Natural contractility and sensibility are lowered; but pain, spasm, and morbid sympathies are often excited, although in a manner much less distinct and constant than in inflammation or determination of blood. Thus, congestion of the liver is sometimes accompanied by pain or tenderness; sometimes it is without either. Congestion of the stomach sometimes causes gastralgia, nausea, and vomiting, with altered appetite; but these symptoms are often absent when the amount of disease of the liver, or the heart, and the subsequent occurrence of hæmatemesis, leave no doubt that the stomach was congested. The same remark is applicable to the kidneys, the uterus, the brain, and other organs." (Williams's 'Principles of Medicine.') Such is the account given by a distinguished and acute pathologist of the irregularity of function produced by congestion; but the analogy from an organ whose function is simple, to one whose function is so complex as that of the brain, can afford but a slight insight into the effect of similar pathological conditions in the two instances. Of the abdominal and thoracic organs, the stomach is that whose functions are the least simple. Its muscular movements are as ingeniously adapted to a purpose as those of the heart. In addition to this, the functions of secretion and absorption discharged by its several sets of glands, add to the complexity of its duties. Congestion, as we have seen, causes irregular excitement or depression of all its functions, nervous, muscular, and secretive; yet, compared with the brain, how few and simple are its duties. The functions of the organ of the mind are more complex than those of

all the other parts of the body put together; nor are they less distinct in themselves and inter-distinct in their action. Consequently, any pathological state which destroys their equilibrium, producing irregular depression of some functions, with irregular excitement of others, must cause a wider and more intricate range of anomalies than is observable in a similar state of the more simple organs. The application of these remarks is not alone restricted to states of cerebral congestion; they refer equally to all pathological states of the organ dependent upon the condition of the blood-vessels and their contents in relation to the nutritive plasma and the cells. As, in the body at large, it only happens in a state of perfect health that the nutritive fluid is distributed in due and uniform proportion to the several parts, so it is in that microcosm of the body, the brain. In a state of perfect health the nutritive fluid is distributed in due proportion to each of its several parts, producing an uniform and well-balanced excitement of function; but in abnormal states of the circulation, this proportioned excitement of function disappears, and is replaced by irregular excitement. *Some functions become torpid and oppressed, while others are excited into preternatural activity; and this state affords the basis of Insanity.*

We are too little acquainted with the physiology of the several parts of the cerebral convolutions to form an opinion as to the existence of that vicarious action which we observe in abnormal states of the other organs. It may be that no such action exists, and that the part of the brain devoted to the perception of sensation discharges no other function in any state of disease; and the same of those parts devoted to the various functions of intelligence and emotion. If this be so, the whole phenomena of Insanity are the more capable of elucidation from the irregular depression and excitement of the various parts of the brain devoted to the various functions of the mind.

The difficulty which this theory has to overcome is that of so-called perverted function, in which a mental state neither appears to be explicable by excitement nor by depression. But with regard to the sensational and intellectual activities, this perversion of function is merely apparent; and even the phenomena of perverted emotion, as we shall endeavour to show in another place, are capable of being explained in a manner consistent with the theory, that excitement and depression are the only abnormal states to which the separate functions of mind are liable.

It may be objected that the pathological relations existing between the vessels and the cerebral cells, which are imperfectly represented by the terms *hyperæmia, anæmia,* &c., are not usually, and indeed very rarely, of that partial character which the theory of unequal excitement would seem to require. When opportunities are afforded for the examination of brains in which these conditions are observable, it is found that the convolutions are not in a hyperæmic or an anæmic state in parts only, and that in other parts they are in a healthy condition, or in a normal state. It is, on the contrary, found that the pathological appearances afforded in congestion of the pia mater and brain, or in a pale and anæmic brain, to a certain extent are general and uniform, especially over the upper surface of the cerebrum, the convolutions at the base and the cerebellum being often remarkably exempt; and it may not appear easy to reconcile this general uniformity of appearance with the theory of loss of uniformity in function. We can, however, gain instruction on this point also from analogy. It is found that the pathological conditions affecting the whole body do not occasion uniform excitement or depression. The instance least liable to objection is that of general anæmia arising from loss of blood. In this condition, all the organs are found more or less exsanguine; and it might, *à priori,* be supposed that the consequence of this state would be a general failure or debility of the bodily functions. But, in reality, this is found to be by no means the case. The greatest irregularity prevails from the excitement of some functions, and the depression of others. It is reasonable to suppose that the same irregularity of function may be occasioned by the same apparent generality of pathological condition in the brain. Of the congeries of organs that subserve to animal life, some are more disposed than others, either from congenital or acquired tendencies, to take on diseased action. Of general pathological conditions of various kinds, some are disposed preferentially to affect one organ, others to affect other organs. Similar laws may hold good in that congeries of organs which subserve to mental life; and hence the explanation of the fact that pathological states, which, to all appearance, implicate partially the whole extent of the cerebral convolutions, result in comparative excitement of some functions, and depression of others. In brains organised with exact similarity, like pathological changes would, doubtless, occasion like effects. The effects would indeed differ

from each other, in consequence of the selection which pathological agents invariably exercise in their action upon the organism. For instance, urea in the blood would invariably affect the temper; stramonium, or chloroform, would as surely affect sensorial activity; and other pathological states of the nutrient fluid would exercise a similar preferential choice. The pathological condition being given, the results would always be uniform, if the congeries of mental organs existed in a uniform proportion of size, power, and activity. But, in fact, this is not so. No one brain is like any other brain. Either by the force of inheritance from parent organisms, or through the influence of education or other modifying circumstances, every mind possesses such a peculiarity and individuality in the relative susceptibility and strength of its organs, that the same disturbing influence never produces in two brains exactly the same pathological effects. Thus, that transitory pathological state, occasioned by the introduction of alcohol into the blood, causes in one man excitement of angry feeling, in another that of jovial and benevolent sentiment, in another maudlin self-depreciation, in another intellectual vigour and enjoyment. Thus, it is obvious that pathological states, whose symptoms during life, and appearances after death, seem to mark them as states of the whole cerebrum, are capable of being the cause of the most diverse forms of excitement or depression in the congeries of organs whose union builds the brain, and whose action constitutes the mind.

Of late years, the application of a stricter logic to the appearances in the minute blood-vessels, recognised by a diligent use of the microscope, and to the phenomena of nutrition and decay, have occasioned great modifications in the scientific meaning of the terms congestion, inflammation, atrophy, &c. A part is not now acknowledged to be necessarily inflamed in which there is pain, heat, redness, and swelling. One pathologist insists that *stasis* of blood in the capillaries is necessary to the condition; another, that the true mark of the inflammatory action is the formation of fibrine exudates; and Virchow goes so far as to call all disturbances of nutrition, and even all atrophies and degenerations, by the term inflammation.

Now, that condition of the small vessels of the brain which has in these pages been designated hyperæmia or congestion, doubtless gives rise to occasional *stasis*, and still more certainly is the

occasion of new exudates. That these exudates do not tend to consolidation, or to the formation of fibres or of pus-cells, may perhaps be allowed to distinguish them from those which take place in the so-called inflammations. And our opinion that Insanity is frequently conditioned by congestion, and rarely or never by cerebral inflammation, may be expressed with greater accuracy in the terms, that Insanity is very frequently conditioned by disturbances of the cerebral circulation, which cause unorganizable exudates, and interrupt the normal endosmotic motions, but which do not occasion the fibrinous and purulent exudations which are found in cerebritis.

The real importance of disturbances in the circulation depends upon their being the cause of disturbance in the nutrition of organs. The changes which take place in the vessels accelerate, impede, or interrupt the nutrient supply of the cells; and questions relating to the *stasis* of the blood, to the formation or increase of the white corpuscles, to the dilatation or contraction of the smaller arteries or veins, the permanent size of the capillaries, the disappearance of Valentine's quiescent stratum, and other questions and facts relating to changes in the small blood-vessels in congestion and inflammation, derive their real importance from their bearing upon the question of interrupted cell-nutrition. In the words of Wedl, "If we desire to resolve the life of the organism, as it were, into its elements, we must endeavour to acquire a more intimate acquaintance with the vital properties of its elementary organs—the cells; we must endeavour to ascertain how the first appearance of the cells in the homogenous *blastema*, is evidenced —how their multiplication by division proceeds—what metamorphoses they undergo—what are the conditions presented in the cells in their further existence—whether they remain stationary in their external habit or not—what stage of development they reach—whether motile phenomena occur in them—or, in other words, we must strive to comprehend the cells as something living, in their nutrition, propagation, and movement. This vital and physiological survey must also be carried on in a pathologico-histological point of view, so that we must not be content to confine our regard merely to what is presented in the dead subject."

The conditions of the minute vessels in a state of hyperæmia will, however, explain one important fact on which we have com-

mented above—namely, the depression of function in one part of a compound organ, with the excitement of function in another part, when the whole organ presents the appearance of uniform congestion. It appears, from the experiments of Bidder, that the notion, hitherto common, of the dilatation and contraction of the capillaries is erroneous. The small arteries and veins which are distinguishable from the capillaries by nuclei, and which also possess a layer of muscular fibres which is wanting in the capillaries, contract under the first stimulus of an irritation, and subsequently dilate. When dilated they supply a larger stream of blood to the capillaries. From hence arises a large qnantity of nutritive plasma, and greater functional activity. But, in other parts of the same organ, a different state of the small vessels may exist; the *veins and arteries may be dilated and contracted in a varicose manner*, and the flow of blood through them be less than in their normal condition. Or it may be interrupted by adherence of blood-corpuscles to the walls, and to those of the capillaries, indicating the commencement of stasis. Under such circumstances, the nutritive plasma, exuding from the renovation of the cells, will be greatly diminished, and functional activity will be depressed. This is one reason why functional uniformity in a compound organ suffers from congestion. Another cause may arise from the nutritive exudation, which take place in excess in one part of the organ, occasioning a species of hypertrophy in that part, and thus giving rise to pressure on other parts of the organ, which pressure prevents transudation, and impedes functional action.

But in addition to this explanation of loss of uniformity of function from the inequalities of pathological changes, another cause of equal potency is to be found in the organization of the compound organ itself. The congeries of organs constituting the brain, like the congeries of organs which constitute the body is rarely devoid of one or more organs, which differ from the remainder either in their size and power, or in their weakness and in their aptitude to incur morbid change. As in the bodies of different men, any disturbing influence operates almost exclusively upon the pulmonary or the intestinal mucous membrane, or upon the heart, or upon the liver—so, in other men, any cause disturbing the physiological conditions of the brain operates almost exclusively upon some one or other of the emotions or propensities. This power of selection may, in some instances, be attri-

buted to the mere size and preponderating force of the organ. Thus, a man in whom the exercise of intellect and the subjugation of passion have been the result of life-long effort, will, under the influence of any excitement, experience exaggeration of the intellectual function alone; or a man who has habitually submitted himself to the domination of benevolent or malevolent emotion, will, under excitement, have the benevolent or the malevolent emotions exclusively exaggerated. In the natural and healthy state of the organs, the preponderating force of any one of them may be overlooked; but when any morbid excitement occurs, the preponderating force of the dominant organ makes itself unmistakably felt. In De Quincey, the excitement of opium pictured before the imagination a gorgeous array of poetic fancies; in Coleridge, it resolved itself into the more intellectual type of metaphysical subtilties; in the savage Malay it produces revolting acts of headlong fury and bloodshed. The stimulus of alcohol is the occasion, among men of high intellectual organization, of "the feast of reason and the flow of soul;" among the pariahs of civilisation, it is the cause of base passion and brutal excess. These facts give a clue to circumstances which not unfrequently present themselves in the history of mental disease, in which the natural bent of the character and disposition is observed, not to be perverted, but only to be exaggerated beyond the boundaries of sane mind, by the action of morbid changes. A lady, whose character has always been distinguished for conscientiousness, and whose religious education has been of a sombre kind, has an attack of small-pox, during which symptoms of acute delirium and cerebral congestion show themselves. After recovery from this zymotic disease, the natural bent of the mental disposition is found to be greatly exaggerated. The irritability of conscience has become an actual disease, destroying the happiness of the individual, and rendering her incompetent to discharge any of the duties of life.—A distinguished admiral, who has always been remarkable for pride and liability to passionate anger, is subjected to severe chagrin by a supposed neglect of Government; he suffers from a distinct crisis of cerebral excitement, with loss of sleep and general feverishness; and, for the remainder of his life, his pride and passion are exaggerated to the dimensions of undoubted Insanity.

As in one man a cold always flies to the bowels, and in another to the lungs, so the causes of mental disease sometimes appear to

strike exclusively upon one or the other organ of the mind. In the above instances, which we have given from our own observation, this so occurred, because the organ affected was the most liable to excitement, from its predominance in size and vigour. But the vigour of any bodily organ renders it less rather than more exposed to morbid influences. The cold, or the fever, or the poison flies to the weak organ rather than to the strong one. The cause of this differenee between the glandular organs of the body and the cerebral organs appears to lie in this, than in the bodily organs healthy excitability has strict limits, and the amount of functional activity within the limits of health is also strictly defined. But in the cerebral organ it is not so; not only do size and power increase with action. but excitability also increases; use and habit render the intelligence, or any of the emotions, not only more vigorous in action, but more ready to act. In this respect some parts of the muscular system bear a close analogy to the cerebral.

There is, however, another class of circumstances opposite to the above, in which causes of morbid change affect a particular mental organ, on account of its weakness and not account of its strength. There appears to be a difference, in this respect, between tho organs which subserve the emotional functions and those which subserve the intellectual. In the former, the size and vigour of an organ render it more obnoxious to be affected by morbid influences. On the other hand, in that part of the cerebrum devoted to the intellectual activities, it is the weakness and imperfection of the organs which render them peculiarly liable to take on diseased action.

That Insanity is frequently conditioned by a preternatural fulness of the cerebral vessels, which interferes with the uniform and healthy interchange of nutritive plasma, passing from the vessels to the cells, and of the fluid cell-contents in a state of involution or degenerative metamorphosis, passing from the cells to the vessels—a fulness unaccompanied by exudation tending to become organized, that is, accompanied by congestion, and not by inflammation—seems to be proved—

First. By the exciting causes of many cases of Insanity, which causes evidently tend to hyperæmia of the brain, and which in their more powerful operation frequently give rise to inflammation itself. Injuries to the brain, from blows, falls, or exposure

to heat, if of a certain intensity, produce inflammation; if they be of a less intensity, in predisposed persons, they give rise to Insanity. Repeated congestions of the brain from alcoholic drinks have a like effect. And, finally, that frequent and unquestionable cause of congestion in all organs of the body, overwork of the organ itself, is a well-recognised and efficient cause of mental disease.

Secondly. The symptoms attending many cases of Insanity are those of cerebral congestion. The forehead and vertex are hot, the face flushed, the conjunctiva injected, the carotid and temporal arteries beat strongly. Sometimes there is pain in the head; more commonly there is a sensation of weight and dulness. Moreover, the general system often suffers from that imperfect and undeveloped state of pyrexia which accompanies active congestion of any important organ.

Thirdly. Remedies which are efficient in the removal of congestion, are most beneficial in the early stages of many cases of Insanity. Cold applied to the scalp by means of the ice-cap, cold lotions, or irrigations of cold water—leeches to the temples, and cupping to the nape of the neck—derivation to the intestinal canal by purgative medicines, or to the skin by warm baths—produce the most marked benefit in the early stages of Mania, arising from the causes, and accompanied by, the symptoms above stated.

Fourthly. When opportunities occur to ascertain the post-mortem appearances of such cases before they have become chronic, and have passed into the conditions of atrophic decay, the appearances are those of congestion of the pia mater, with deepened colour of the convolutions; sometimes, but not always, accompanied by punctiform injection, or general pinkiness of the white substance of the cerebrum.

We are fully aware that an objection may be raised to the congestive theory of the pathology of Insanity, from the fact that certain diseases of the heart and lungs, and tumours pressing upon the jugular veins, which appear to be efficient causes of cerebral congestion, may, and frequently do, exist without symptoms of mental disease. The objection must be admitted for what it is worth. It is sufficient to stimulate inquiry into the essential differences of congestions variously caused; but it does not appear to be sufficient to set aside the arguments above adduced in favour of the theory. The brain of a person not predisposed to

Insanity may be able to accommodate itself to congestion slowly produced by the operation of these causes. Such congestions are likely to affect the whole of the cerebral organ equally; and may, therefore, be wanting in that loss of uniformity which constitutes so remarkable a feature in mental disease. Doubtless there are many persons who suffer from extreme degrees of emphysema, of the lungs, or of disease of the heart, who display no symptoms of mental disorder. But it is not certain that, in all instances, the congestion which empurples the face extends itself to the organ of mind. And on the other hand, there are cases sufficiently numerous, in which the impeded return of the blood from the head, occasioned by thoracic disease, does appear to produce mental disorder. We have seen several cases in which asthma has appeared to have this effect; and Mr. Ley, of the Oxford Asylum, has observed many cases in which pulmonary emphysema has been the remote cause of Insanity. The probable reason of apparent anomalies in this matter would seem to be, that, in some cases, congestion has been slow in its production, and uniform in its extent and influence. In such cases the mental functions are debilitated, but not deranged. We have never seen an instance of extensive pulmonary emphysema, or of any other disease which occasioned marked and persistent congestion of the head and face, in which there was not some debility of mental function. That such debility is not at first apparent, receives a probable explanation from the fact, that congestions arising from obstructions to the return of the venous blood display themselves in the vessels of the areolar tissue and of the skin, in a more marked degree, and at an earlier date, than in the vessels of large glands and other important organs. Thus, venous obstructions give rise to œdema of the cellular tissue of the legs and abdominal dependencies, before they interfere greatly with the functions of the liver, the kidneys, or the intestinal canal; and the same rule appears to hold good in congestion from venous obstruction in the head. The active discharge of function in large vascular and energetic organs resists the influence of such causes of congestion long after the vessels of the cellular tissue, whose functional activity is much lower in degree, have been thrown into a pathological condition thereby. The greater the functional activity of a healthy organ, the more energetic its resistance to the causes of disease.

Anæmia.—That numerous instances of Insanity are conditioned

by the state of the cerebral vessels generally but imperfectly expressed by the term anæmia, may be proved by an array of arguments similar to those which we have adduced to prove the influence of congestion :

First.—The efficient cause of numerous cases of Insanity is actual loss of blood, or a deficiency in its nutritive powers, occasioned by insufficiency of food, or by impediments to the conversion of food into healthy blood ; or by the numerous anti-hygienic influences which limit the quantity or weaken the nutritive quality of the blood in the cerebral vessels. Anæmia is a vascular condition with which the microscopist is far less intimately acquainted than that of congestion. It is not much that he can learn respecting it from the foot of the frog, the wing of the bat, the tail of the tadpole, or the mesentery of a young rabbit. After death the whole mass of the organ is found to be paler than usual, and that is about all with which actual observation has hitherto been able to make us acquainted. But even could it with ease be demonstrated upon the field of the microscope, that cerebral vessels in an anæmic condition have any distinctive characteristics, it is improbable that such observations would explain more than the simple fact, which we can understand as well without, namely, that a dilute state of the blood is as great a hindrance to functional vigour as that congestive commencement of *stasis,* which deranges endosmic action by an opposite condition of the capillaries. Certain physiological actions being necessary for the nutrition and the healthy functional activity of the brain-cell, any impediment to these actions interrupts this activity. Hence the markworthy fact, that the essential symptoms occasioned by congestion and anæmia greatly resemble each other. The physical symptoms of fainting from loss of blood, and of coma from suffocation, are sufficiently distinct ; but the psychical symptoms resemble each other very obviously. In both there are the same affections of the senses, the same sparks and flashes before the eyes, the same tinnitus aurium, the same thick-coming fancies, followed by loss of consciousness, the same painful sensations attending recovery. The slighter but more persistent degrees of hyperæmia and anæmia are attended by symptoms readily distinguishable from each other, both by physical and psychical symptoms. In hyperæmia, with hot head and fulness of the cerebral vessels, the cerebral functions are discharged with slowness

and difficulty. In anæmia, with pale face, cool head, and weak pulse, the cerebral organs are in a state of irritable weakness, easily excited to action, the action, however, being powerless and irregular. In fact, the mental state in anæmia differs from that which is observable in hyperæmia, much in the same manner as the muscular system in an exsanguinated person differs from the muscular system in one morbidly plethoric. In the former it is quick, irritable, and tending to convulsive irregularities; in the latter it is less subject to be thrown into violent action or convulsion, and its motions are slow and oppressed. This distinction, however, is by no means constant. The state of anæmia, carried beyond a certain point, destroys the functional excitability and activity of an organ. Moreover, when an organ has made decided progress in the march of retrogressive change, it loses its excitability. Thus it happens that anæmia of the brain, combined with atrophic decay, is accompanied by loss of functional activity, and is a frequent cause of Dementia; while, on the other hand, the rapid nutrition of some portions of the brain, occasioned by a moderate degree of active hyperæmia, often augments functional susceptibility and power.

We must in this place guard ourselves from a possible misapprehension which may arise from the stress which we lay upon the quantity and movement of the blood in the cerebral vessels. We are so far from regarding these as the ultimate causes of Insanity, that we look upon them merely as one link in the series of proximate causes; and that link at least one remove from the termination of the chain. Between the ultimate condition upon which mental function, either normal or abnormal, depends, and the condition of the blood in the cerebral vessels, there must intervene the condition of the cell apparatus. To this may perhaps also be added, the condition of the capillary walls. But these ultimate factors of mind are only now being slowly and laboriously explored. The state of the blood in the minute vessels is the circumstance lying the nearest to that ultimate molecular change resulting in functional activity, with which until recently our powers of observation have been able to make us to some extent acquainted. We must trace the path so long as it is visible, and we must carefully take its bearings at the point of its disappearance. The direction of its last visible trace is often of more value to guide us onwards than the whole length of its previous course. But the importance of

any link in the series of causation must not be under-estimated because it is placed at some removes from the end of the chain. The aim and end of science is to predict. If our knowledge were complete, we should be able to predict with certainty, from the conditions of any one part in the path of causation, the conditions of all subsequent parts and of the end. If our knowledge were complete of the cerebral organization, we should, from any morbid state of the cerebral capillaries and their contents, be able to predict the anomalies of mental function which would result therefrom. To this end, it is true, we should require to possess a knowledge of the state of the cells, upon which morbid conditions of the circulation have to act. And herein lies the great difficulty of pathological science, that these minute but all-important constituents of the organization have refused hitherto to yield their secrets. All that we surely know of them is, the place where they lie in the path of causation, namely, between the network of capillaries and the phenomena of function.

Rokitansky has expressed his opinion that the conditions of the nerve-mass are independent of those of the nutrient supply, and that the state of the capillaries and their contents is often, if not generally, a phenomenon consecutive to and dependent upon the state of the nerve-cells. At bottom, this question resolves itself into the origin of thought and consciousness. If healthy blood supplied to healthy nerve-substance is the sole occasion of healthy nervous function, such function must be dependent upon and consecutive to such a supply of healthy blood. But if healthy nerve-substance can originate its own activity, by an independent and spontaneous act, which occasions those molecular changes of involution and repair, to effect which the capillaries and their contents are essential, then Rokitansky's view of the pre-ordination of cellular change to vascular change may be correct.

But even admitting the possibility of this, the connection between cellular and vascular change is of so intimate a character that it is difficult to assent to Rokitansky's proposition, that pathological conditions of the cerebral vessels are to be viewed as secondary phenomena. This question is of far greater importance than may at first appear; since it has been quite the custom, among a certain class of writers, to argue that the pathological changes discoverable in the brains of insane persons are secondary changes, of little importance to the elucidation of mental disease. Pinel, and after

him, Esquirol, unfortunately expressed this opinion. These great alienists, with vast experience of the phenomena of Insanity, lived and wrote before pathological knowledge was developed into a science. They looked for gross and unmistakeable changes of structure. Failing to discover these, they were led to the admission (which few pathologists of the present day would endorse) that functional disturbance may exist without organic change, and that organic change may exist without necessary connection with functional disturbance. Their observations have been quoted, and their opinions repeated and developed by numerous writers, whose prejudices or preconceived beliefs have led them to regard Insanity as the condition of a certain metaphysical entity; and it is to be regretted that so high an authority as the great pathologist of Vienna should in any way be available for the support of this false and mischievous theory.

The opinion that pathological conditions of the cerebral vessels are secondary phenomena is available for this purpose, because in a large number of instances such conditions are the only visible and appreciable changes which present themselves. The theory of the metaphysicians is based—1st, upon the assumption that Insanity may exist without cerebral change; and 2nd, upon the assumption that the visible changes which are most observed (that is, the vascular changes) are not primary and essential phenomena, but secondary and unessential. It therefore becomes of the utmost importance that clear ideas should be formed respecting the succession and dependence of pathological phenomena.

That functional disease, both of the brain and of other organs, may exist without appreciable change of structure, is a fact which will continue to be explained by some persons of a certain mental constitution, by verbal formularies respecting vital and spiritual dynamics, and which will, by other minds, who submit their operations of thought to more stringent rules, be attributed solely to our limited powers of observation. But the question of the primary or secondary nature of the pathological changes which are found to exist in the brains of persons dying insane is a point on which differences of opinion exist, even among persons who look to structural change alone as the cause of functional disturbance. The opinion on one side may be thus stated: the morbid activities of the cerebral cells, being excited by sensational impressions, are the determining cause of morbid conditions of the

cerebral capillaries. The adverse opinion may be thus stated: a morbid condition of the cerebral capillaries, occasioned by agencies influencing the circulation, is the determining cause of morbid changes in the cerebral cells. An appeal to the ætiology of Insanity seems to assure us that both views are partially right, and both are partially wrong. Functional disturbance of the brain may, undoubtedly, be occasioned by changes provoked in its organism by sensational impressions, and between such impressions and the cerebral vessels a condition of the cerebral cells must undoubtedly intervene. In cases of Insanity so produced (that is, in most cases dependent upon moral causes) it may be granted that a pathological condition of the cerebral vessels cannot be antecedent to a pathological condition of the cells. But, if subsequent thereto, it must be immediately subsequent and necessary.

It is supposable that the first cell change is slightly anterior to any modification of the capillaries which supply nutriment to, and remove material from, the morbid cells; but it is difficult to believe that morbid changes can take place in the cells of an organ, without the capillaries being immediately influenced thereby. Any change so produced in the capillaries may therefore be theoretically called secondary; but, if secondary, it is, nevertheless, a necessary change without which the condition from whence it arises cannot continue to exist.

The physiological vascular changes which take place in the lungs are secondary to impressions made upon nerve-cells. It is thus that they are first excited, and continue to be maintained. But they are a necessary consequence of such impressions, and a necessary condition of the continuance of such impressions. Thus, although secondary, they are not the less physiologically necessary.

In most instances of Insanity arising from physical causes, it is probable that the pathological condition of the cerebral cells is subsequent to, if not dependent upon, the pathological condition of the cerebral capillaries. It is unnecessary to go through the roll-call of the physical causes of mental disease; suffice it to say, that injuries to the head, fever, suppressed discharges, alcohol, and other noxious ingesta, can only influence the cerebral cells through the medium of the capillaries.

There may be some doubt respecting cases occasioned by nervous irritation, propagated from distant parts of the body, or affecting

the brain in the manner which we formulate under the term of nervous sympathy. With regard to many other physical causes of mental disease, it is scarcely possible to doubt, that a pathological condition of the cerebral vessels is not only an essential condition of the disease, but that it is also one which takes place in order of time antecedent to any pathological condition of the cerebral cells. But, whether the cerebral changes observable in the insane are primary or secondary, it cannot be denied that they are the results of the disease; and even if it could be proved that they were invariably of a secondary character, they would not the less bear testimony to the nature of Insanity being that of morbid physical change in the cerebral organs. Undoubtedly, the vast majority of the pathological appearances observed in the cerebrum are of a secondary nature, since they are those of atrophy and decay. But the charred beams and blackened walls of a ruined homestead do not speak more eloquently of previous conflagration than the dilapidated roof and mouldering structure of a decaying building speak of the slower process of oxydization or eremacausis; and a brain with organized exudations testifies not less strongly to previous deviations from the normal state than an atrophied brain, without such accompaniment, speaks to the existence of the slower process of defective nutrition and degenerative metamorphosis.

According to Virchow, however, the cell is less dependent in its pathological changes upon the condition of the vessels than it has hitherto been believed to be. In illustration of this view, Virchow not only points to the well-known fact that inflammatory changes take place in parts of the body which are at a certain distance from vessels, as in the centre of the cornea, in cartilage, and the internal substance of tendons, but he maintains, that in other pathological processes the cell has the ability to draw to itself new material, and again to dispose of it, by "a simply nutritive restitutional power." He believes that what are called exudations do not exist so frequently as is supposed; for he says, "In a tissue which consisted of cells, I could, after the exudation, see nothing but cells, and in tissues composed of cells and intercellular substance—nothing but cells and intercellular substance." The cells, indeed, were larger, fuller, and filled with matter with which they ought not to have been filled; but in such cases "the absorption of matter into the interior of the cells is unquestionably an act of the cells themselves." Even in cases where what are called

exudations do undoubtedly exist, Virchow considers them to be drawn from the vessel by the activity of the cell, rather than exuded by any action of the vessel. "A good deal is, as we have seen, not so much exudation as, if I may so express myself, an educt from the vessels in consequence of the activity of the histological elements themselves." (Virchow's 'Cellular Pathology,' translated by Chance.) In fine, the primary activity of the cell is the broad doctrine taught by this great pathologist—an activity which in inflammatory processes he considers always due to irritation. The doctrine, indeed, is not so new as the facts and arguments adduced in its proof. In multiplying and strengthening these, we cannot but hope that much light will be thrown upon the obscurities of our special department of pathology, and that through this powerful aid we may, before long, be enabled to speak in more positive terms of the changes known to take place in the cell-apparatus of the brain.

Cerebral Atrophy.—Insanity is a chronic disease, and not frequently fatal in its early stages. It is therefore unusual to meet with the simple appearances of congestion, or of anæmia, which have hitherto occupied our attention. The commonest appearance met with in the brains of insane persons is that of shrinking. In the January number of the 'British and Foreign Medical Review' for 1855, we have published some investigations made upon this important subject, and have there tabulated the measurements and weights of sixty-three brains, which were examined for this especial purpose.

The method we adopted for estimating the amount of atrophy was as follows:

"The brain, including the medulla oblongata, is slowly immersed in a vessel of convenient size and shape, which is filled with water up to the level of a capacious spout placed at an acute angle with the sides. Before the brain is so immersed, the contents of the ventricles, and any serum which may be in the subarachnoid tissue, are allowed to escape through several long incisions. The organ is not allowed to remain immersed long enough to imbibe water, which it is capable of doing in large quantity, as proved by the experiments of Nasse. As it descends in the vessel, the water it displaces escapes from the spout, is caught and measured, and affords a criterion of the actual bulk of the brain. (See 18th column of Table.)

"The capacity of the cranium is obtained by a somewhat more troublesome process. It is well known that one of the older physiologists employed millet-seeds for this purpose; Sir W. Hamilton used sand: but neither of the methods would be feasible in the recent subject. The plan which the author has adopted is as follows:—The foramina at the base of the brain are carefully plugged with tenacious clay—that used by statuaries for modelling answers best; a small triangular piece of the frontal bone is removed with the saw; the calvarium is readjusted to the base, the dura mater being left attached. The space left by the attrition of the saw, in removing the calvarium, is filled up with clay; and a narrow bandage, with clay spread upon it, is made to surround the cranium three or four times, covering this space. If this manipulation has been carefully done, the cavity of the cranium will now be found as tight as a bottle. Sixty fluid ounces of water having been measured, a sufficient quantity to fill the cranial cavity is now poured into it, by means of a funnel, through the orifice in the frontal bone, taking care that the stream does not wash away the luting of the foramina. The fluid which remains, after having filled the cranial cavity, is measured, and being deducted from the sixty ounces, gives the amount employed. Thus, if nine ounces and two drachms remain, the capacity of the cranium was fifty ounces and six drachms; and if the amount of the fluid displayed by the brain was forty-five ounces, the amount of atrophy was five ounces and six drachms. To this must be added half an ounce for the space occupied by the luting, giving the actual amount of atrophy as six ounces and two drachms. Of course this examination is made before the chest is opened."

The results of these sixty-thre examinations are given in the annexed Table.

EXAMINATION OF THE ENCEPHALIC ORGANS IN SIXTY-THREE CASES OF INSANITY.

Patient's number.	Sex.	Age.	Form of mental disease.	Supposed cause of mental disease.	Duration of mental disease.	Apparent cause of death.	Measurements of body.		Measurements of cranium (scalp removed).			Thickness of grey matter of cerebral convolutions in $\frac{1}{100}$ths of an inch.	Specific gravity of cerebrum: tubular neurine.	Specific gravity of cerebrum: vesicular neurine.	Specific gravity of cerebellum.	Weight of brain and medulla oblongata (avoirdupois).	Displacement of water by brain in fluid ounces (apothecaries').	Capacity of cranial cavity for water (fluid ounces, apothecaries'); half an ounce added for luting.	Amount of atrophy shown by difference between displacement and capacity.
							Height.	Breadth from one acromion to other.	Circumference.	Between meatus and over vertex.	Root of nose to occipit. protuberance.								
							ft. in.	in.	ft. in.	in.	in.	in.				lb. oz.	oz.	oz.	oz.
1196	M.	28	Dementia	Blow on head	3 years	Apoplexy, with convulsions	5 3½	15	1 9½	13½	14	$\frac{7}{100}$	1·034	1 040	1·045	3 0¼	44¼	48	3¼
155	F.	37	Idiotcy	Malformation	Congenital	Heart disease	4 7	13	1 8	13	13½	$\frac{7}{100}$	1·042	1·034	1·042	2 0½	37¼	40½	2¼
809	M.	18	Epilepsy	Epilepsy	4½ years	Peritonitis	5 9	14	1 8½	12½	14½	$\frac{7}{100}$	1 034	1·041	1·041	3 3½	49	49½	
1121	F.	23	Melancholia	Unknown	11½ months	Phthisis	5 4	13½	1 8	12	13½	$\frac{7}{100}$	1·041	1 034	1·041	2 8½	39	41½	2
523	F.	77	Mania	Unknown	7 years	Phthisis	5 1½	14	1 8¼	12	13	$\frac{7}{100}$	1·040	1·048	1·035	2 13	43½	45½	2
1186	F.	67	Chronic mania, with dementia	Death of husband and son	5 yrs. 9 wks.	Old age	4 10½	13	1 8	11½	12	$\frac{7}{100}$	1·032	1·032	1·041	2 8¼	37½	43½	6
1133	F.	30	Mania: general paralysis	Reduced circumstances	11 months	General paralysis	5 3½	12	1 8½	12½	12¾	$\frac{7}{100}$	1·034	1·034	1·040	2 9½	40½	47½	7
377	F.	33	Idiotcy	Malformation	From birth	Apoplexy	4 8	11½	1 7	11½	12¾	$\frac{7}{100}$	1·043	1·038	1·039	2 7½	36½	40½	4
498	F.	41	Epileptic mania	Puberty	Unknown	Epilepsy	5 2½	15	1 8¾	12¾	13	$\frac{7}{100}$	1·041	1·040	1·041	3 1½	45½	51½	6
255	M.	57	General paralysis	Blow on head	Unknown	Convulsions	5 6½	15	1 10	13¾	14	$\frac{8}{100}$	1·041	1·041	1·041	2 13¾	43½	52	8½
147	F.	53	Mania	Disappointed affections	Unknown	Bronchitis: phthisis	...	12½	1 8	13	13½	$\frac{7}{100}$	1 035	1·035	1·035	2 11¾	41	44½	3½
1129	M.	66	Dementia	Fever	4 yrs. 8 mos.	Softening of brain	5 6½	14½	1 9½	13	14½	$\frac{7}{100}$	1·036	1·032	1·032	2 14½	43	56¼	13¼
1127	M.	21	Epileptic mania	Too rapid growth	4 years	Epilepsy	5 5	14	1 8	11	13¾	$\frac{8}{100}$	1·042	1·041	1·042	2 0¾	42	44	2
1181	F.	38	General paralysis	Dissolute habits	Unknown	Paralysis with epilepsy	5 5½	13	1 7½	11¾	12¾	$\frac{7}{100}$	1·042	1·041	1·042	2 9	40	42½	2½
1067	M.	24	Melancholia: deaf and blind	Reduced circumstances	1 year 7 mos.	Phthisis	5 7	15	1 8½	12	12¾	$\frac{7}{100}$	1·044	1·035	1·049	2 14¾	44½	52½	8
1064	F.	60	Melancholia	Unknown	2½ years	Paralysis	5 2	13¾	1 8	12	13	$\frac{7}{100}$	1·036	1·033	1·042	2 11	39	40½	1½
1197	M.	27	Idiotcy	Malformation	From birth	Phthisis	5 5	13	1 9	13	13¾	$\frac{7}{100}$	1·040	1·038	1·042	2 15½	40	44½	4½
869	M.	37	Mania	Unknown	5 yrs. 3 mos.	Results of apoplexy	...	13	1 9	12¾	14	$\frac{7}{100}$	1·033	1·035	1·034	2 7¾	37½	52½	15
1223	F.	55	Mania	Prostitution: intemperance	5 months	Results of apoplexy	5 7	13½	1 8	13	13¾	$\frac{6}{100}$	1·041	1·035	1·041	2 7	37	42	5
517	M.	35	Epilepsy	Epilepsy	2 months	Phthisis	5 8	15½	1 8¾	12	13	$\frac{7}{100}$	1·041	1·039	1·040	2 13¼	41¼	48	6¾
1040	F.	75	Chronic mania	Unknown	2 months	Bronchitis	4 10	14½	1 8¾	12	12⅛	$\frac{7}{100}$	1·039	1·039	1·041	2 12	41	47½	6¾
431	F.	13	Epilepsy	Fright	7 yrs. 5 mos.	Bronchitis and epilepsy	4 8	10	1 8	12¾	11½	$\frac{7}{100}$	1·039	1·039	1·039	2 12	42	44	2
712	M.	49	Melancholia	Anxiety about business	4 yrs. 1 mo.	Dysentery and heart disease	5 6½	15	1 8⅛	12	13⅛	$\frac{8}{100}$	1·036	1·038	1·036	2 13½	44	44	0
488	M.	72	Dementia	Not known	Congenital	Chronic Pleurisy	6 6	14	1 10	13	14⅛	$\frac{8}{100}$	1·036	1·036	1·036	3 7	53	58½	5½
210	M.	34	Epilepsy	Not known	Unknown	Epilepsy	5 4½	14	1 9½	12⅛	14¼	$\frac{7}{100}$	1·049	1·041	1·044	3 11	56	58½	2½
763	F.	40	Mania	Intemperance	4 yrs. 4 mos.	Phthisis	5 7	14½	1 8½	11¼	13	$\frac{8}{100}$	1·041	1·037	1·041	2 11	42½	43½	1
701	M.	68	Mania	Not known	7 years	General Paralysis	5 7	16	1 9½	13½	13¾	$\frac{8}{100}$	1·042	1·033	1·042	4 0	46¾	55½	8¾

749	F.	90	Mania	Reduced circumstances	4 years	Old age	5	5	12	1	9½	12	14	8/100	1·037	1·041	1·042	2	12½	40	48	8
849	F.	31	Epileptic dementia	Epilepsy	17 years	Epilepsy	5	6	14	1	9⅛	12½	13	8/100	1·038	1·038	1·038	3	3	47½	50½	3
264	F.	63	Incoherence	Not known	Unknown	Inflammation of the lungs	5	2½	13½	1	8¼	11	13	8/100	1·040	1·037	1·043	2	13½	40	43	3
972	M.	46	General paralysis	Not known	2 yrs. 3 mos.	General paralysis	5	3	13¼	1	9	12½	13½	7/100	1·032	1·033	1·042	2	13	40	50¾	10¾
1028	F.	51	Recurrent mania	Not known	3 yrs. 5 mos.	Syncope: heart disease	4	10	13½	1	8½	13½	13	7/100	1·043	1·036	1·046	3	1½	46½	52	5½
1163	M.	38	Mania	Hereditary predisposition	4 years	Pneumonia	5	8	15	1	8¾	12	13¾	7/100	1·042	1·035	1·041	2	14	45	49½	4½
738	M.	48	Epilepsy	Unknown	Many years	Epilepsy: heart disease	5	3	15	1	8	11¾	11¾	8/100	1·039	1·035	1·042	3	12	41½	49	7½
673	M.	45	General paralysis	Fright from shipwreck	5 yrs. 3 mos.	General paralysis	5	4	15	1	0¾	12¾	12	8/100	1·040	1·047	1·042	2	8	40	44½	4½
569	F.	44	General paralysis	Unknown	7 years	General paralysis	5	0	13½	1	8	11½	13	8/100	1·040	1·038	1·045	2	10½	41¾	42½	¾
1151	F.	33	Mania	Dissipation	5 weeks	General paralysis	4	6½	14	1	7½	11	11½	8/100	1·040	1·036	1·040	2	7	38	40½	2½
995	F.	20	Epileptic mania	Fever	7½ years	Phthisis	5	0	13	1	8½	11¾	12¼	7/100	1·041	1·038	1·041	2	14½	46	47½	1½
1136	M.	74	Mania	Unknown	6 months	Dysentery: diarrhœa	5	2	14	1	7¼	12½	12	7/100	1·032	1·030	1·030	2	11½	41¾	44½	2¾
1068	M.	31	General paralysis	Intemperance	1¼ year	Dysentery: diarrhœa	5	1	13	1	8¾	12	12½	7/100	1·043	1·043	1·045	2	10	47	50½	3½
1083	M.	72	Dementia	Erysipelas of head	4 yrs. 7 mos.	Diarrhœa	5	4½	14	1	9½	12	12½	8/100	1·040	1·040	1·040	2	10	41	55½	14½
866	M.	34	Recurrent mania	Irregular living	2½ years	General paralysis	5	7	14½	1	9	12¾	12½	7/100	1·040	1·039	1·040	2	15	47	50¾	3½
898	M.	37	Mania	Unknown	2½ years	Pleuritis	5	6	15½	1	8	11¾	11¾	7/100	1·040	1·035	1·041	2	15½	45½	46	½
945	M.	65	Chronic mania	Unknown	Unknown	Diarrhœa	5	8	15	1	9	12	13	7/100	1·041	1·032	1·041	3	1	48	53½	5½
614	F.	64	Melancholia	Hereditary predisposition	24 years	Pleuro-pneumonia	4	10	12	1	7½	12	11¼	8/100	1·038	1·038	1·038	2	8½	40	44½	4½
952	M.	41	General paralysis	Destitution	2 yrs. 1 mo.	Apoplexy	5	6	12	1	8½	12	12	7/100	1·041	1·037	1·041	2	12	43¾	49½	5¾
1110	M.	40	Mania	Disappointed affection	Unknown	Apoplexy	5	6	15	1	8½	12½	13¼	8/100	1·037	1·033	1·038	2	10¼	43	52	9
438	M.	31	Dementia: epilepsy	Fright	12 years	Phthisis	5	5	14	1	9½	12½	13¼	7/100	1·039	1·033	1·037	3	3	50	54½	4½
1100	M.	50	Melancholia	Intemperance	8 months	Phthisis	5	9	15	1	10	12	13	9/100	1·040	1·032	1·042	3	0½	55	57	2
1106	M.	52	Dementia	Unknown	13 months	General decay	5	9½	16	1	8	11½	13	7/100	1·041	1·040	1·046	2	10¾	42¾	44½	1¾
595	F.	78	Dementia	Unknown	3 years	Gradual decay: diarrhœa	5	4½	14	1	9¾	12	13	7/100	1·040	1·038	1·040	2	11	43	52	9
1099	F.	68	Mania	Unknown	6 weeks	Gradual decay	4	8	12	1	8½	12	12½	7/100	1·040	1·036	1·043	2	5¾	37	47½	10½
1018	M.	61	Melancholia	Intemperance	1 year	Heart disease	5	8	15½	1	9½	13	13½	7/100	1·041	1·036	1·041	3	1	47	55¾	8¾
643	F.	29	Idiotcy	Unknown	From infancy	Chronic peritonitis	5	1	12½	1	7½	11¾	12½	8/100	1·040	1·038	1·040	2	7¾	40	43	3
644	M.	72	Mania	Unknown	7 years	Heart disease	5	4½	14	1	8½	12½	12½	8/100	1·046	1·040	1·046	2	8½	38	46½	8½
776	F.	78	Dementia	Unknown	3 years	Gradual decay: diarrhœa	5	4½	14	1	9¾	12	13	7/100	1·040	1·038	1·040	2	11	43	52	9
1894	F.	42	General paralysis	Prostitution	9 months	Apoplexy	5	2½	14½	1	7¾	11¾	11¾	8/100	1·041	1·039	1·044	2	10½	42	43½	1½
1245	F.	38	Mania, chronic	Unknown	2 years	Phthisis	5	0	13	1	8	13	13½	8/100	1·041	1·030	1·041	2	8½	40	45½	5½
1125	F.	49	Mania, chronic	Death of husband	7 years	Gradual decay	5	3	14	1	8	12¾	13	7/100	1·034	1·034	1·034	3	0	48	50½	2½
1158	M.	43	General palsy	Blow on head	1½ year	Paralysis	5	9	15	1	8½	12½	13⅜	7/100	1·037	1·031	1·037	2	11¾	41¼	50½	9¼
1262	M.	70	Dementia	Unknown	Unknown	Disease of heart and lungs	5	5	15	1	9½	13½	13	7/100	1·040	1·030	1·040	2	12½	43	53½	10½
345	F.	40	Epilepsy	Unknown	Unknown	Epilepsy	4	10	11½	1	7¾	13½	11½	8/100	1·044	1·044	1·044	2	9¾	41	45½	4½
1150	M.	52	General palsy	Unknown	2 years	Gangrene of lung	5	6	15	1	10	13¾	13¼	9/100	1·040	1.040	1·040	3	2	49¼	59¾	10½

The general results were an average amount of atrophy to the extent of five ounces and a quarter, varying from nothing to fifteen ounces, or one third of the whole cerebral mass. In thirteen patients whose ages exceeded sixty-five years, the average amount of atrophy was eight ounces and one sixth, or more than fifty per cent. above that of the whole number. The amount in epileptic cases was greatly below the average of the whole. The general result arrived at was that—

"In cases of Chronic Mania, of Dementia following Mania, and of primary Dementia, the amount of cerebral atrophy may generally be calculated upon by the enfeeblement of mental power. In all these forms of disease we have found some amount of atrophy, and have, for the most part, found this amount to correspond with the degree of mental decadence estimated with its duration. The first of these conditions, that is, the degree, it is impossible to tabulate; the second, that is, duration, it is not easy to show accurately in a tabular form. The sixth column of the table above referred to represents the duration of disease from the period of the first appearance of symptoms, as nearly as it could be ascertained. These symptoms may have been slight for years, and grave for a short time only before death."

"It must not be thought that extensive atrophy is only found where the mental symptoms are solely those of impairment or loss of function. It is not inconsistent with much mental excitement, or with numerous delusions; but such excitement is powerless, and the delusions are transitory and puerile. Whether *measurable* atrophy exists in the early stages of Acute Mania and Melancholia, the data we possess do not prove; although they are amply sufficient to demonstrate that the cerebral conditions upon which these forms of Insanity depend tend to pass into an appreciable and measurable shrinking of the brain substance, unless the healthy cerebral action be speedily restored."

"Opinions on the ultimate nature of the nutritive defect which results in cerebral atrophy and Insanity must necessarily be speculative, since the ultimate nature of nutrition itself is unknown to us.

"Its apparent and exciting causes may be classified as follows:

"1. In predisposed persons it may depend upon poverty of blood, since it is producible by deficient food and by diseases inter-

fering with the alimentative processes; and since an analogous train of symptoms occurs during starvation.

"2. It is probable that in other cases it may depend upon some derangement of 'the intimate connexion between the nervous and vascular systems, through which their most important functions are performed,' since it is sometimes found to be accompanied by extensive disease of the minute cerebral vessels, the coats of which can be shown to be subject to fatty or earthy decay.

"3. A third class of cases would appear to be producible by the molecular change effected by blows or violent concussions, and followed by atrophy, owing to some process as yet unknown to us. Atrophy of a testicle from a blow, without inflammation, presents an analogous instance.

"4. Another class of cases are those following inflammation, and perhaps also following frequent and long-continued congestion. The basis of inflammatory action is an abnormal state in the mutual relationship between the blood and the tissues. That this state effects changes in the tissues, which, if not speedily repaired, must be followed by conditions of degraded nutrition, is proved by the pathology of every organ in the body. The brain certainly offers no exception. The capillaries become blocked up, or their coats become spoiled for the purposes of nutritive regeneration of the tissues.

"It also appears probable that, during inflammatory or congestive conditions, albuminous matter or serous fluid may be effused by the capillary network into the intimate structure of the brain; thus separating its vesicles and tubules from the capillaries, and preventing the due nutrition of the elements of nerve-structure. For this form of atrophy, we have formerly suggested the prefix of *relative*, as it may exist where there is no shrinking of the brain; atrophy with shrinking being termed *positive*. The two, however, may, and frequently do, coexist.

"5. The most numerous class, however, is that which depends upon want of rest, during the especial period of nutrition of the brain—namely, sleep. Want of refreshing sleep we believe to be the frequent origin of Insanity, dependent upon moral causes. Very often, when strong emotion tends to the production of Insanity, it causes, in the first instance, complete loss of sleep.

In many cases, however, the power of sleeping is not lost, but the quality, so to say, of the function is perverted, the sleep being so distracted by agonizing dreams, that the patient awakens jaded rather than refreshed. We have known several instances in which patients becoming convalescent from attacks of Acute Mania have distinctly and positively referred to frightful dreams as the cause of their malady; and it is probable that a certain quality of sleep, in which dreams excite terror and other depressing emotions more forcibly than waking events are likely to do, is scarcely less adverse than complete insomnia to the nutritive regeneration of that portion of the brain on whose action those emotions depend. In such a condition it is highly probable that the very portions of the brain which most need a state of rest are, even during the sleeping quiescence of other portions, more wastefully engaged in the activity of their functions than they could be in the waking state. The main-spring of Insanity is emotion of all kinds. This, stimulated by phantasy, and emancipated from the control of judgment, during harassed sleep, may be more profoundly moved than at any other time. Bichat considered sleep to be a very complex state, in which it was possible for the cerebral functions to be in very different conditions of quiescence or activity: 'Le sommeil général est l'ensemble des sommeils particuliers;' and he considered that dreams represent the active or waking condition of certain of these functions during the repose of the others. In this manner a patient, some one or other of whose emotions has been profoundly affected, may continue to be sleepless, as far as the activity of the particular emotion is concerned, although he may by no means be the subject of general insomnolence; and this consideration will afford what seems to be a fair explanation of the exceptional cases to this rule, that the moral causes of Insanity act by preventing the due nutrition of the brain, as it occurs during sleep."

On these five classes of the causes of atrophy we shall here make some further observations. In tracing the course of cerebral atrophy, it will be convenient to select that variety whose causation and phenomena are of the most simple and intelligible kind. This would appear to be presented by the atrophy accompanying old age. The balance between the functions of repair and decay, which in health maintains every organ in a state of size and power uniform with certain limits, is lost as age advances,

and the tissues of the body lose their perfect organization and pristine vigour. The duration of the life of an animal depends upon the period of its existence when this loss of balance occurs; but it is not easy to understand why these slow but fatal changes take place at certain specified periods; why the tissues of a sheep become worn out at the end of ten years, and those of a stag endure seven or eight times as long. It is impossible even to point out any necessity for this degradation of tissue at all. We must accept, as an ultimate fact, or as a law of nature, that such degradation of tissue in the organs of all living beings takes place at a certain fixed period of their existence.

It appears to us not improbable that the age of senile decay in different animals may depend upon an hereditary habit of life fixed in the first instance by the more or less perfect manner in which some portion of the organism not in itself vital has been fitted to the circumstances of living. For instance, a sheep begins to lose its incisor teeth at four years old; when they are lost it can no longer graze the mead, the vital tissues then degenerate from want of nutrition, and if the sheep be not converted into mutton it will die worn out at an early age, leaving behind a progeny with the hereditary tendency to decay at the same age, even if artificial food were supplied. A stag's teeth do not decay early, and it can browse even after it has lost the incisors. It, therefore, not only lives to a far greater age, but begets offspring whose tissues have an hereditary tendency to postpone the decay of age. The long lives of birds of prey and the short ones of those which are habitually preyed upon and which if not eaten die early of old age, have probably become so through hereditary influences. The first eagle would outlive its victims and transmit to its offspring tissues with an hereditary tendency to resist decay longer than those of the grouse or the pigeon. May we not reasonably expect that in man the longer life conferred by a sanatory civilisation will gradually develop the hereditary tendency to yet longer life, and that the prevention of zymotic disease may, in the lapse of generations, defer the advent of senile decay to a period of life of which we have hitherto had no examples. The prevention of typhoid fever may thus postpone the period of atheromatous deposit.

At present, in man, retrograde changes commence at the age of about sixty years. About that time the nutritive repair of the organs begins slowly to fall short of the amount of their decay.

The muscles gradually become smaller, weaker, and paler, and the brain undergoes the same process of change. In the brain, one cause of this process is, perhaps, more easily traceable than in other organs—namely, to a change in those minute vessels by means of which the processes of nutrition are carried on. It is true that the cerebral capillaries are scarcely within the reach of satisfactory microscopical observation; but the cerebral arteries may be observed with facility. The coats of these are found to be thickened and opaque, and occupied by that which is called atheromatous deposit—namely, by a material composed of fatty substances and earthy salts. In the larger arteries, whose different coats are distinguishable, this deposit, or rather this degeneration, is found to have its seat external to the elastic coat, and internal to the outside cellular envelope. If this degenerative change can be traced in the smallest arteries, whose construction is capable of being submitted to observation, it is probable that the change is not limited to them, but that it extends to the capillaries, whose minuteness forbids its demonstration. The plasma of the blood would then permeate the capillary walls from within, outwards, and the exhausted cell contents would permeate from without inwards, with slowness ever increasing as the capillary walls were injured by deposit. From this slowness would arise lentor of the cerebral functions, displaying itself at the earliest period in those functions whose activity is not kept alive by habitual use; and to a still greater degree in those functions whose activity is dependent upon the stimulation of the senses, the organs of which have also undergone contemporaneous decay. But debility of function, arising from the slow interchange of material between the capillaries and the cells, would not account for atrophy if the balance of the interchange was still exactly adjusted. Slowness of mental function is often seen in persons of phlegmatic habit from this cause, without the condition of atrophy being present. But in the degenerative changes of old age, the balance of exchange between the capillary and the cell contents is not maintained. The probable explanation of this is afforded by the supposition, that the greatest activity of exosmosis from the capillaries takes place in that part of the capillary system which is adjacent to the arteries; while the most active endosmosis of exhausted cell-fluid takes place into that portion of the capillary system which is adjacent to the minute veins. Now, the pathological changes

under consideration affect the arterial system, if not exclusively, yet to a much greater extent than they affect the venous system. The arterial capillaries may have coats more thickened and degenerated than the venous ones; and thus a greater impediment be placed against the outflowing of the materials for nutrition and repair, than against the inflowing of the exhausted cell-fluid, and the foundation of atrophy established. Whether any pathological changes corresponding in their nature to the fatty degeneration of the arterial coats take place in the cells themselves, we are unable to ascertain, or even to gain better grounds for reasonable conjecture, than the probable participation of all the tissues in the degenerative changes. The law which limits the duration of organic completeness, which weakens the force of that unknown something which we call vital power, and which permits the ordinary chemical affinities of the constituents of the body to exert themselves with increasing force, this law, doubtless, operates upon all parts of the organism, although with different degrees of intensity and at different periods of time. The glands which secrete the hair on the vertex vacate their office before those which secrete the hair on the brows, and the latter do so long before the glands which secrete nails. But the law of decay is universal, and doubtless touches the cerebral cells independently of their connection with the minute vascular network.

The views of Virchow on this point are expressed in the following passages of his 'Cellular Pathology:' "If we speak of the action of the liver, we can, both in regard to the formation of sugar as well as that of bile, mean nothing but the action of its individual elements (cells); an action which consists in their attracting matters from the passing current of the blood, in their effecting within their cavity a transmutation of these substances, and returning them in this transmuted form either to the blood or yielding them up to the bile-ducts in the shape of bile."

"Now, I demand for cellular pathology nothing more than that this view, which must be admitted to be true in the case of the large secreting organs, be extended also to the smaller organs and smaller elements; and that, for example, an epidermis-cell, a lens-fibre, or a cartilage-cell be, to a certain extent, admitted to possess the power of deriving from the vessels nearest to them (not always, indeed, directly, but often by transmission from a

distance), in accordance with their several special requirements, certain quantities of material; and, again, that after they have taken this material up, they be held to be capable of subjecting it to further changes within themselves, and this in such a manner that they either derive therefrom new matter for their own development, or that the substances accumulate in their interior, without their reaping any immediate benefit from it; or, finally, that after this imbibition of material, even decay may arise in their structure, and their dissolution ensue. At all events, it seems necessary to me, that great prominence should be assigned to this *specific action of the elements of tissues*, in opposition to the specific action of the vessels, and that in studying local processes we should principally devote ourselves to the investigation of processes of this nature."

"If, therefore, it is the muscular elements of the arteries that have the most important influence upon the quantity of blood to be distributed, and the mode of its distribution in the several organs, and the elastic elements that are chiefly concerned in the production of a rapid and equable stream, they, nevertheless, exercise only an indirect influence upon the nutrition of the parts which lie outside the vessels themselves; and in this matter we are obliged to betake ourselves, as a last resource, to the simple *homogeneous membrane of the capillaries*, without which, indeed, not even the constituents of the walls of the larger vessels, provided with vasa vasorum, would be able to maintain themselves for any lengthened period. The difficulty which here presents itself has, as you know, during the last ten years been chiefly got over by the assumptions of the existence of *diffusive currents* (endosmosis and exosmosis) between the contents of the vessels and the fluid in the tissues; and by regarding the capillary wall as a more or less indifferent membrane, forming merely a partition between two fluids, which enter into a reciprocal relation with one another; while the nature of this relation would be essentially determined by the state of concentration they are in and their chemical composition, so that, according as the internal or the external fluid was the more concentrated, the diffusive stream would run inwardly or outwardly, and, according to the chemical peculiarities of the individual juices, certain modifications would arise in these currents. Generally speaking, however, the chemical side of this question has been but little regarded."

"It cannot be denied that there are certain facts which cannot well be explained in any other manner, especially in cases where essential alterations have taken place in the state of concentration of the juices; for example, in the form of cataract, which Kunde has artificially produced in frogs by the introduction of salt into their intestinal canal or subcutaneous cellular tissue. But in proportion as, after a physical study of the phenomena of diffusion, the conviction has been acquired that the membrane which separates the fluids is not an indifferent substance, but that its nature exercises a directly controlling influence upon the permeating powers of the fluids, it becomes impossible that a like influence should be denied the capillary membrane. We must not, however, go so far as to ascribe to this membrane all the peculiarities observable in the interchange of material, and so explain how it happens that certain matters which enter into the composition of the blood are not distributed in equal proportion to every part, but leave the vessels at some points in greater, at others in less, quantity, and at others not at all. These peculiarities depend, manifestly, on the one hand, upon the different degrees of pressure to which the column of blood is subjected in certain parts, and on the other, upon special properties of the tissues; and we are irresistibly compelled, both by the consideration of simply pathological, and particularly by that of pharmacodynamical phenomena, to admit that there are certain *affinities* existing between definite tissues and definite substances, which must be referred to peculiarities of chemical constitution, in virtue of which certain parts are enabled in a greater degree than others to attract certain substances from the neighbouring blood."

Returning to the consideration of cerebral atrophy, next to that of old age, that proceeding from pathological changes of the vascular system, approximating to the state called inflammation, is the most intelligible.

We have above given reasons for the opinion that the chronic class of diseases known under the generic term of Insanity are not referable to inflammation of the great nervous organ. Inflammation, however, may, and sometimes does, cause changes in the organ, which are the conditions of Insanity. In the brain the state of inflammation itself either very quickly ceases, or very soon causes death; but when it does cease, it leaves behind it conse-

quences which are frequently the conditions of Insanity, and the causes of cerebral atrophy.

Inflammation of all soft organs is apt to result in atrophy, after the organizable products which at first increase the bulk of the organ have contracted upon the blood-vessels, and cut off, to a greater or less extent, the nutrient supply. The heart, indeed, affords an apparent exception; but its structure is seldom inflamed, and its hypertrophy is consequent upon increased exertion necessary to overcome mechanical difficulties which have arisen from inflammatory injury of its valves or serous covering. That inflammation of the brain is sometimes followed by atrophy, is as certain as that inflammation of Glisson's capsule is followed by atrophy of the liver. Whether it arises from the same cause is yet unknown. It is now very generally admitted that the organic elements of the brain are bound together by connective tissue; the *neuroglia* or nerve-cement of Virchow corresponding more or less in its character with the connective tissue of the liver, which, when altered by inflammatory processes, squeezes that organ into a hobnailed callosity. We have as yet no facts upon which to ground the opinion that changes in the neuroglia are frequent causes of cerebral atrophy. On this point, as on others, we must await the revelations of microscopic observers, who may perhaps be able hereafter to demonstrate a kind of cirrhosis in the brain.

Thus we wrote in the last edition of this work, and we retain the passage now that our anticipations have been fulfilled by the accurate histological observations of Dr. Lockhart Clarke, Dr. Batty Tuke, and others. The term scleroma or scleriasis has indeed very properly been substituted for that of cirrhosis, which refers to the colour of the diseased liver, and is obviously inappropriate to designate an analogous change in the brain or spinal chord.

In the meanwhile, the newest pathological science is tending to discredit the agency of the blood-vessels, and to locate all force of change in the cells. The truth in this matter will, perhaps, be found to be between the Berlin professor and what he calls the Vienna school; so that the condition of the cells, and that of the nutrient vessels, may both be found of importance in the causation either of disease or of natural decay.

Of this, however, there can be little doubt, that the nutrition of the brain depends upon its exercise, and its exercise depends upon the perfection of its organization. The organization once perma-

nently injured, its uniform and harmonious exercise becomes henceforth impossible; its nutrition is impeded, and atrophy results.

It will appear from the above that we attribute a large share of mental disease to pathological conditions of the brain, whose most prominent characteristic is defective nutrition of the organ. In a very large proportion of cases, this deficient nutrition is manifested after death by an actual shrinking of the brain—a shrinking which is coextensive with the duration and the degree of loss of mental power. This loss of power marks all instances of cerebral decay, and is consequently a condition of most chronic cases of insanity. Partial mental excitement is, it is true, an incident constantly recurring, even in forms of mental disease where the general loss of power is most conspicuous, and where organic atrophy is found to be most considerable. This partial and irregular excitability is common to organs whose nutrition is defective, and the general vigour of whose functions is greatly weakened. Thus, a diseased stomach, quite unable to supply the amount of solvent secretion needful to digest a due supply of food, frequently torments its wearer by excessive and irritating secretions of gastric juice, at times when it can serve no good purpose, and only tends to heartburn and acid vomiting. So, also, the atrophied brain is exceedingly prone to sudden erethism, more or less partial, which manifests itself in strange and irregular excitement of the mental functions. Such excitement is usually followed by increased debility of function; and it is by no means uncommon to observe a regular alternation of mental excitement and debility. The excitement is more or less partial, and affects principally the emotional functions. The intellectual functions are also liable to be so affected; but, inasmuch as the operation of the whole of these functions is necessary to the performance of common intelligential acts, and, as in spoilt brains, the whole of them are not usually excited at the same time, the fact of this condition in any one of them often attracts no attention.

The emotional and instinctive functions present the most frequent and easily appreciable instances of cerebral excitement. Pathologically they present counterparts of excessive gastric secretion which takes place in the ill-nourished stomachs of phthisical patients; and there can be little doubt that, if we knew the locality of the different functions of the brain, and were capable

of inspecting its organs during life, we should find this temporary and partial excitement characterised by local erethism of the pia mater. It is one indication of the small share which inflammatory processes have in the production of mental disease, that the partial hyperæmia to which the atrophied brain is peculiarly liable never results in true inflammation.

Insanity by Sympathy.—That the organ of the mind is thrown into diseased action by sympathy with, that is, by suffering with, other diseased or injured parts, is scarcely less certain, than that the stomach, the heart or the spinal marrow, are so affected. The *modus operandi* of this cause of disease is by no means clearly intelligible, either in relation to the brain or to the other organs, the explanations usually offered being little more than diversified verbal formularies of the fact. Thus, when we say, that the irritation of the cervix uteri is reflected upon the stomach, occasioning vomiting and distress in that organ, we come no nearer to an explanation of the mode of action, than when we say that the stomach sympathises with, or suffers in conjunction with, or in consequence of, irritation of the organ first affected. And, in like manner, when we say, that the brain suffers sympathetically with the uterus or stomach, we use a mere verbal formula for the colligation of two facts, with the intimate nature of whose connexion we are wholly unacquainted. The knowledge which we actually possess on this subject may, in general terms, be thus stated: the most important organs of the body are liable to be thrown into states of functional disturbance by irritation or injury of other, and frequently of distant, parts. The liability to this disturbance depends, in the first place, upon what is called constitutional irritability, or a state of the system in which slight causes of nervous action produce great effects; and, in the second place, upon the intimate connexion of the organ secondarily affected with the nervous system, and its liability to be thrown into disorder by any alteration or disturbance in the state of that system. Any premature attempts to explain this important pathological fact, by hypotheses respecting nervous currents, or the exhaustion of nervous power, seem at present rather likely to obscure than elucidate the matter. We may, however, come one step nearer to a reasonable view of the fact, by considering all sympathetic disturbance as taking place in the nervous system itself; and by considering the functional disturbance of secreting

and other organs as merely the expression of abnormal states of the nerves in those organs. Strictly speaking, therefore, sympathetic vomiting or palpitation is as purely a nervous phenomenon as loss of consciousness or convulsions; and the latter as mental excitement or delusion.

In early life the cerebro-mental functions are more intimately connected with those of the spinal system than at subsequent periods, and distant irritations are more frequent and efficient causes of mental disturbance in the infant than in the adult. Delirium and coma are, in children, frequently produced by intestinal irritation. In the adult, delirium, in comparison with convulsions, is so rarely a consequence of simple irritation, as to furnish strong evidence that the brain proper may exercise its functions with great independence of the excito-motory or spinal system. The most frequent and unquestionable instances of cerebral disturbance from the distant irritation or sympathy are afforded in epilepsy and hysteria. In both of these diseases, the paroxysm is compounded of disturbance both of the cerebral and spinal functions; but during the interval, cerebral disturbance alone is frequently present, and in the paroxysm itself it is never wanting. In epilepsy, especially, is this the case; for loss of consciousness, which is the primary and leading feature of the paroxysm, is the most serious and profound indication of cerebral disturbance, no less, in fact, than the temporary abnegation of all cerebral function. In hysteria, loss of consciousness is of less certain occurrence, although sometimes it is doubtless complete. In the interval of hysteria, however, cerebral disturbance is often not less marked than in epilepsy. The emotions are perverted, and even delirium is by no means uncommon. Now, both of these diseases are frequently but the expression of sympathy with irritation of distant parts of the nervous system. The one is produced by irritation of the nerves of the uterus and its appendages, and the other by the irritation of almost any portion of the peripheral nerves, by worms in the intestines, renal calculus, painful injuries and diseases of the limbs, &c. Therefore these diseases present unquestionable instances of mental disturbance, occasioned by sympathy of the brain with irritation of the distant nerves; of the central organ of the system, suffering in its noblest functions, in sympathy with some fibres of its peripheral extension.

The most probable explanation of the sympathetic disorders is,

that injury to one part of the nervous system interferes with the process of secondary nutrition taking place in other parts. The rapidity with which they occur may, at first sight, seem adverse to this view; for instance, in the case related by Dr. Gooch, "Dr. Denman passed a ligature round a polypus of the fundus of the uterus; as soon as he tightened it, he produced pain and vomiting. As soon as the ligature was slackened, the pain ceased; but whenever he attempted to tighten it, the pain and vomiting returned. The ligature was left on, but loose. The patient died about six weeks afterwards, and on opening the body, it was found that the uterus was inverted, and that the ligature had included the inverted portion." Sympathetic disturbance of the functions of the brain are, in some instances, scarcely less rapidly occasioned, or less capable of receiving immediate relief. Thus, the irritation of a cutting tooth, will sometimes produce in a child, delirium and coma; and the removal of the irritation, by incision of the inflamed gum, will remove the symptoms almost as speedily as in the example above quoted. But when it is considered that the processes of secondary nutrition are those upon which the functions of all organs immediately depend, and that any interference with these processes must necessarily and immediately disturb the normal course of the functions, the short interval which is frequently observed to exist between the production of irritation and its sympathetic consequences, will present no difficulty to the adoption of the theory which explains the latter in the manner here suggested. In our present state of ignorance of the manner in which influences are communicated from one part to other parts of the nervous system, it is impossible to explain how the processes of secondary nutrition in the nervous structure are interfered with in distant parts thereof. But this difficulty scarcely diminishes the probability that the explanation offered is the true one; and, indeed, only presents one of those imperfect links in reasoning, which the immaturity of physiological science renders of such constant occurrence in all departments of medical science. The operation of remedies is consistent with this view of sympathetic disturbance, since those narcotic substances which retard the processes of waste and repair in the nervous system, afford the most efficient means of preventing the nervous functions from suffering in consequence of peripheral nervous injury. Moreover, this view of pathological sympathy is consistent with the only

rational view of physiological sympathy. Secretions are the result of secondary nutrition. Many secretions are normally excited by the irritation of nerves more or less distant; that of the mamma, for instance, of the testis, and to some extent, of the gastric glands. Here then, at least, are processes of secondary nutrition energetically influenced by the irritation of distant nerves.

The organs of the brain are less under the influence of the peripheral nerves, than are the periodic glands. A man may be as hungry as a famished wolf, without thinking of food. Loud sounds may strike upon the waking ear, or vivid and remarkable objects upon the retina, without exciting attention, if the mind is deeply absorbed in other matters. Nevertheless, the mind may and constantly does act in sympathy with the state of the peripheral nerves; and the normal waste and repair of the brain is constantly, although not solely, influenced by the impressions made upon the nerves of general, special, and functional sense. This independence of the brain upon those nervous irritations and impressions, which doubtless impart to it the first stimulus to functional activity, but which subsequently exercise a permissive, rather than an imperatorial influence—this independence was needful for the preservation of mental health. The brain has its own laws, and is no abject dependent upon the sensations. Had it been otherwise, sanity would scarcely have been possible, and man would have been the puppet of every mean circumstance, the reasoning automaton of wind and weather. The moral law could for him have had no existence; and his thoughts, feelings, and actions, must have followed as the necessary consequence of the latest sensory impressions. Sensations are, in the first instance, needful to excite the mental functions into activity. Without the stimulus of sense, the infant cerebrum would remain devoid of ideas and emotions, an inert mass like a lung, perfect in structure, but into which air has never been admitted. But once excited to action and supplied with ideas, the brain is no longer dependent upon the organs of sense. It can act without them or against them, employing its energies upon the provision of ideas stored in the memory, and by its own emotional and instinctive habits.

In connection with this subject are the interesting cases which have been observed by Dr. Batty Tuke, in which the *portio mollis* was found after death to be diseased in a patient who had suffered

from hallucinations of hearing, and in another patient in whom disease localised in the neighbourhood of the olfactory bulbs was seen by the same careful observer where hallucinations of smell existed.

Pathology of Monomania.—Every one conversant with the phenomena of Insanity, is aware that there are patients in whom the aberrations from mental soundness are limited in the range of objects to which they apply, and the nature of subjective faculties which they implicate. In many instances of this kind, an enduring perversion of the modes of thought, the foundations of belief, and the workings of emotion on one, or at least on a few objects, are the well-recognised symptoms of that form of disease which systematic writers treat of under the head of Monomania. It would be incorrect to say, that in the purest cases of Monomania none of the faculties are weakened; since the simplest hallucination or delusion proves a want of healthy energy in the perception or the judgment. But as a whole, and outside the morbid subject of opinion and feeling, the mind is not weakened. Moreover, the general health of such patients is excellent; and if they die of any acute intercurrent disease, no pathological appearances are observed in the brain. To account for the perverted opinions and emotions of such patients upon the principles advocated in these pages, is a more difficult task than in the more numerous cases in which existent pathological change can be demonstrated in the cerebral organ itself, or reasonably inferred from the accompanying symptoms. Considering the vigorous and healthy activity of the mental functions most implicated in Monomania, on all subjects outside the circle of delusive opinion; considering the unimpaired state of the bodily health, so frequent in these cases; and lastly, considering the frequent absence of pathological appearances in the brain after death; it is impossible to attribute the mental phenomena to active processes of disease existing in the cerebral organs. But, inasmuch as all perverted function is dependent upon abnormal states of the material organ; inasmuch as many instances of the kind under consideration originate in the ordinary causes of morbid change, and are accompanied during the early part of their course by the ordinary symptoms of cerebral disease, and as they sometimes, though rarely, give way under the influence of time and moral treatment; it is certain that these functional perversions are dependent upon

abnormal states of their organ; although it may be difficult to recognise them as pathological, how much soever they may deviate from the standard of structural perfection. The only rational explanation of which these conditions of functional perversion with apparent health of the organism appear capable, is that afforded by the establishment of a habit of cell-growth and nutrition in the mould or type impressed by a previous state of diseased action.

A morbid process of some kind or other establishes a certain irregularity in the cell development, and impresses upon the intimate structure of the organ an abnormal habit of nutrition, which endures after the pathological factors have been removed.

The physiological habit or constitution of the whole body is frequently altered by an attack of acute zymotic disease, which has, nevertheless, left behind it no legacy of determinate pathological change.

That which takes place in the body at large, is by no means uncommon in its most important organs; and an irregular habit of functional activity is a frequent legacy of disease in the stomach, kidneys, and uterus. This habit depends upon a peculiar arrangement of cells, or mode of cell-growth, impressed by diseased processes, and continuing in the same mould or type after these processes have ceased.

This explanation of diseased function arising from physiological growth, taking place in a pathological mould or type, has been admirably elucidated in Sir James Paget's second lecture on 'Surgical Pathology.' He says:

"The last condition which I mention as essential to healthy nutrition, is a healthy state of the part to be nourished.

"This is indeed involved in the very idea of assimilation which is accomplished in the formative process, wherein the materials are supposed to be made like to the structures among which they are deposited; for unless the type be good the antitype cannot be.

"When any part or constituent of the body has been injured or diseased, its unhealthy state will interfere with its nutrition, long after the immediate effects of the injury or disease have passed away. Just as in healthy parts, the formative process exactly assimilates the new materials to the old, so does it in diseased parts; the new formed blood and tissues take the likeness of the

old ones in all their peculiarities, whether normal or abnormal; and hence the healthy state of the part to be nourished may be said to be essential to the healthy process of nutrition.

"After any injury or disease by which the structure of a part is impaired, we find the altered structure, whether an induration, a cicatrix, or any other, as it were, perpetuated by assimilation. It is not that an unhealthy process continues; the result is due to the process of exact assimilation, operating in a part of which the structure has been changed; the same process which once preserved the healthy state maintains now the diseased one.

"Yet, though this increase and persistence of the morbid structure be the general and larger rule, another within it is to be remembered; namely, that, in these structures, there is usually (especially in youth) a tendency towards the healthy state. Hence, cicatrices, after long endurance, and even much increase may, as it is said, wear out; and thickenings and indurations of parts may give way, and all again become pliant and elastic.

"I can hardly doubt that herein is the solution of what has been made a hindrance to the reception of the whole truth concerning the connexion of an immaterial mind with the brain. When the brain is said to be essential, as the organ or instrument of the mind in its relation with the external world, not only to the perception of sensations, but to the subsequent intellectual acts, and especially to the memory of things which have been the objects of sense, it is asked, How can the brain be the organ of memory, when you suppose its substance to be ever changing? Or, how is it that your assumed nutritive change of all the particles of the brain is not as destructive of all memory and knowledge of sensuous things, as the sudden destruction by some great injury is? The answer is, because of the exactness of assimilation accomplished in the formative process. The effect once produced by an impression on the brain, whether in perception or intellectual act, is fixed and there retained; because the part, be it what it may, which has been thereby changed, is exactly represented in the part which, in the course of nutrition, succeeds to it. Thus in the collection of sensuous things, the mind refers to a brain, in which are retained the effects, or rather the likenesses, of changes that past impressions and intellectual acts had made. As, in some way passing far our knowledge, the mind perceived, and took cognisance of, the change made by the first impression of an object

acting through the sense organs on the brain; so afterwards it perceives and recognises the likeness of that change in the parts inserted in the process of nutrition."

All that Sir James Paget says respecting the physiological growth of brain upon the pathological type of disordered sensation, will fully apply to the same growth on the type of disordered emotion; and his views afford an admirable basis for a rational explanation of partial Insanity occurring in persons in whom, during life, there are no physical phenomena of diseased brain, and in whom, after death, there are no pathological appearances in the organ of mind.

To resume—the theory we propound of partial Insanity, without appreciable change of the brain, is as follows:—When the disease first exists, it is attended by pathological states of the cerebral cells and vessels. A morbid condition of the cerebral organization is occasioned, attended by the phenomena of Insanity. After a short time the vessels recover their tone, the brain is nourished, and its size maintained as a whole. But the original balance of its organs is not regained; their nutrition having been impressed in the type or mould of their diseased state. Perhaps some of the cerebral organs encroach on others by their actual bulk; undoubtedly some of them overbear others by their greater activity. The result is chronic mental disease, of a nature which leaves behind no pathological appearance.

Account of Special Pathological Changes.—It has been unfortunate for the advancement of cerebral pathology, that those early writers who have devoted much care to the observation of cerebral changes presented in *post-mortem* examinations, have either lacked the desire or the opportunity to make themselves acquainted with the mental phenomena which had preceded death. The careful and minute detail of appearances observed in the brains of persons supposed to have died insane, disconnected from any account of the symptoms which existed during life, are of comparatively little value, in the present imperfect state of pathological science. A few fossil teeth and bones enabled Professor Owen to reconstruct the probable similitude of an extinct animal; but the science of pathological anatomy has attained far less certitude than that of comparative anatomy; and therefore such descriptions as those of the *post-mortem* examinations made in Bethlem by Dr. Webster, have their practical value diminished from the want of some

account of the symptoms which in each case preceded death. The descriptions of the older anatomists, Morgagni, Bonetus, and others, have the same defect; a defect, indeed, of which Morgagni was fully sensible, and of which he offers an explanation, or rather an excuse, in the fact that the medical men who had observed the cases, during life, frequently did not know whether to call the patient melancholiacs or maniacs. He says, "Melancholia is so nearly allied to Mania, that the diseases frequently alternate, and pass into one another; so that you frequently see physicians in doubt whether they should call a patient a melancholiac or a maniac, taciturnity and fear alternating with audacity in the same patient; on which account, when I have asked under what kind of delirium the insane persons have laboured whose heads I was about to dissect, I have had the more patience in receiving answers which were frequently ambiguous, and sometimes antagonistic to each other, yet which were, perhaps, true in the long course of the Insanity."—(*De Sedibus et Causis Morborum*, Epist. viii.)

Of the thirteen examinations recorded, Morgagni himself made eleven; his pupils made one; and the other one was made by Valsalva. The appearances noted by these great anatomists in this small number of dissections, include a large part of the morbid appearances which extended observation, and the advantages derived by later anatomists from the instructions of those preceding them, have been able to distinguish. In one or other of the cases, the dura mater was found thickened and adherent to the cranium; the vessels of the meninges distended with dark blood; serum was found between the meshes of the pia mater, sometimes in large quantity; there were also air-bubbles in the vessels of the pia mater; the consistence of the brain altered—sometimes soft, sometimes more or less hard; discoloration of the medullary substance, from distension of its blood-vessels; serum in the ventricles, sometimes clear, sometimes turbid; the choroid plexus in some cases injected, in others containing cysts; the vessels of the brain sometimes distended with black and fluid blood; in one instance the coats of the arteries were unusually firm (*quære* atheromatous). In one instance a fibrinous clot occupied the whole of the longitudinal sinus. This occurred in a young woman who died with general prostration of the vital powers. It is probably the earliest instance recorded of this appearance, and it is interesting in connexion with Dr. C. B.

Williams's views on the formation of fibrinous clots in the cerebral sinuses of asthenic subjects.

Of the thirteen insane persons of whom the autopsies are recorded by Morgagni, it is remarkable that no less than four came to an untimely end. One threw himself out of a window in the night, and was killed. One was tied by the throat by his keeper, so that he was strangled. One was starved to death during severe weather; and one, after recovery from Insanity, died from inflammation of the intestines, occasioned by a finishing dose of black hellebore. It would appear from this that the liability of the insane to violent death was very great in those times.

Morgagni concluded that the cause of Insanity existed, in many cases, in the morbid changes of the pineal gland, and in many others in an induration of the brain. We are informed that, in his examinations, he was in the habit of removing the head from the trunk, for the sake of convenience, before he examined the brain. This indicates forcibly the difference between the accuracy and delicacy of the examinations made by the greatest of the old pathologists and those of the present day. An examination conducted after this fashion would be little likely to offer evidence of moderate serous effusions, or the less obvious conditions of hyperæmia. The pathological records of Insanity made by other anatomists of the last century are still less marked by exact observation than those of Morgagni, and are, perhaps, more interesting to the medical antiquary than to the modern pathologist.

A brief reference to them may, however, be instructive, as showing that many of the changes which still most readily catch the attention of observers were then noted.

Bonetus observed hypertrophy of the brain; obliteration of the sutures; the dura matter adherent to the cranium,and turgid with blood; the pia mater turgid with blood, and not insinuated between the convolutions; water in the ventricles and other parts of the brain, in large quantity; the substance of the brain marked with a black spot, and sometimes with an infinite number of bloody spots, especially on pressing it; in one case it was dry, hard, and friable.

Boerhaave mentions, that the brain of maniacs has been found dry, hard, and friable, and of a yellow colour.

Haller classified the observations made by others upon the brains of insane and phrenitic persons, and concludes thus :—

"From these few observations, for which we are chiefly indebted to Morgagni, but little certainty can be derived; since it not only frequently happens that we can discover no disorder in the bodies of maniacs, or even of such as have been totally insensible; but where we do, we are as far from being able to perceive an uniform connexion between any one disorder of the mind and some corresponding preternatural state of the contents of the skull, that the very same appearances are exhibited after those most opposite disorders, idiotism and frenzy; which last seeming inconsistency may possibly appear less extraordinary if we consider the symptoms of drunkenness and frenzy, in which we may observe that the very same cause produces, at first delirium, and afterwards, as the disorder advances, drowsiness and insensible stupor. This, however, seems evident, that in the disorders of the mind the brain and its connexions are usually affected; and *when, in some rare instances, we can discover no disease of these parts, we may conclude, either that it is seated in their very elementary particles, or has not been sought for with sufficient patience and attention.*"—('Elements of Physiology.')

Greding, in 216 cases, found the skull unusually thick in 167 cases; the dura mater adherent to the cranium in 107 cases: the pia mater thickened and opaque in 86 out of 100 cases of Mania; and beset with small spongy bodies in 92 out of 100 cases. He observed effusions of serum between the dura and pia mater in 120 out of 216 cases of Insanity, and in 58 out of 100 maniacal cases; the lateral ventricles were distended in 52 cases. The choroid plexus was found healthy in only 16 out of 216 cases of Insanity; and it was thickened and full of hydatids in 96 out of 100 maniacs.

These records will convey strongly the impression, that however exact the observations of this pathologist might have been, he did not interpret the morbid appearances as we are accustomed to do at the present day. Effusions of serum between the dura mater and the pia mater, and diseased conditions of the choroid plexus, are conditions which need some description to be intelligible.

Meckel remarked the increased density of the cerebral substance in the bodies of the insane.

Soemmering and Arnold confirmed this observation; and the latter expressed his conviction that Insanity was occasioned by the increased density of the cerebral substance, and of those parts

of the brain by means of which the soul is connected with the body!

Portal declared that all mental diseases were the effects of morbid alterations in the brain or spinal cord. He enumerated a great number of alterations, but with so much inaccuracy that little reliance can be placed upon his descriptions. He enunciated, however, on this subject, the following sound and philosophical doctrine, which, to the present day, may well serve as a text for labourers in this difficult and obscure department of pathology:—"*Morbid alteration in the brain or spinal marrow has been so constantly observed, that I should greatly prefer to doubt the sufficiency of my senses, if I should not at any time discover any morbid change in the brain, than to believe that mental disease could exist without any physical disorder in this viscus, or in one or other of its appurtenances.*"

Pinel had no confidence in the revelations of pathological anatomy. In the preface to his excellent work on 'Mental Alienation,' referring to the labours of Greding he remarks:—"But although one must eulogise his efforts to throw new light upon the organic affections of the insane, is it possible to establish any relation between the physical appearances manifested after death, and the lesions of intellectual function which have been observed during life? What analogous varieties does not one find in the skull and brain of persons who have never shown any sign of aberration of mind! And, therefore, how can we succeed in fixing the limits which separate that which is normal from that which must be held to be the result of disease?" (Preface, p. xx.)

In the body of his work (p. 142) he refers the primitive seat of Mania "to the region of the stomach and intestines, from whence, as from a centre, the disorder of the understanding is propagated by a species of irradiation. A feeling of constriction, &c., manifests itself in these parts, soon followed by a disorder and trouble of ideas."

Well might Gall exclaim, in reference to these opinions of the great reformer of the treatment of Insanity, and to the opinions, scarcely more philosophical, on the same point, of Pinel's eminent pupil and successor, Esquirol:—"It is a sad business that, in writing for men who ought to have the clearest ideas upon mental disease, it should be necessary to commence by estab-

lishing the true seat of Mania;" and he adds that Fodéré actually undertakes to prove that the brain is neither the seat of inclination, instinct or mental power, much less of Mania or delirium. ('Sur les Fonctions du Cerveau,' tome ii, p. 223.)

In justice to Pinel it should be remarked, that, however mistaken his views upon the pathology of Insanity may have been, they had at least the merit of referring a bodily disease to a bodily origin. In the preface to the second edition of his work, he thus wisely expresses an emphatic condemnation of metaphysical theories on this point:—"The most difficult part of natural history is, without doubt, the art of well observing internal diseases, and of distinguishing them by their proper characters. But mental alienation presents new and diverse difficulties and obstacles to surmount, either in the unusual gestures and tumultuous agitations which it occasions, or in a kind of disordered and incoherent chatter, or in a repulsive or savage exterior. If one desires to account for the phenomena observed, one has to fear another rock —that of intermingling metaphysical discussions and the divagations of ideology with a science of facts."

Esquirol, the pupil of Pinel, adhered with affectionate pertinacity to the opinions of his great master. He states, in the 'Dictionnaire des Sciences Médicales,' that the principal changes observed in the brains of insane persons are—"The cranium frequently thick, sometimes eburnated, sometimes with thickness of the diplöe, very frequently injected, more rarely thin, its thickness variable in different regions; the dura mater adherent either to the vault or to the base of the cranium, sometimes thickened, frequently its vessels developed and injected; the internal face of the dura mater clothed with a membraniform layer, as if the fibrine of effused blood had extended itself in the form of a membrane. Almost always between the arachnoid and the pia mater serous or albuminous effusions are found, which cover and almost efface the convolutions. Effusions at the base of the brain are common; they exist almost always in the ventricles."

In M. Esquirol's great work, 'Des Maladies Mentales,' published so recently as 1838, his opinions on pathology are considerably modified. Referring to the case of a recent maniac, who was killed by one of her companions, and in whose body he and his pupils were surprised to find no lesions of the brain or its

meninges, he declares, that "pathological anatomy, in spite of the very important labours of MM. Foville, Calmeil, Bayle, Guislain &c., has not been able to make us acquainted with the organic cause of Mania. Thirty years ago, I would willingly have written upon the pathological cause of madness. At the present day I would not attempt a labour so difficult—so much of incertitude and contradiction is there in the results of the necroscopy of the insane made up to this time. But I may add, that modern researches permit us to hope for ideas more positive, more clear, and more satisfactory."

M. Foville describes in acute cases injection of the pia mater existing to a greater or less extent, according to the degree of inflammatory action in the cortical substance. In chronic cases, he describes opacity and thickness of the membranes, adhesion of the membranes to each other, granulations of the pia mater, and false membranes. The grey substance, he asserts, is, in acute cases, intensely red on its surface and in its substance. This redness is most vivid in the frontal and vertical region. The redness is not uniform, but mottled and diversified with spots of a violet hue, and with minute extravasations of blood. He describes the consistence of the cortical layer underneath its surface as diminished, the surface itself being somewhat indurated. In acute cases, the pia mater, he says, is not adherent to the cortical substance, while in chronic cases it is frequently so; and in this fact he sees an important distinction, capable of explaning the incurability of chronic mental disease. In chronic cases, the superficial or outer layer of the cortical substance becomes indurated and capable of being separated from the inner layer, which is softened and mammillated; the outer layer is harder, the inner layer is softer; the outer layer browner, and frequently paler, the inner layer redder than natural. Atrophy of the convolutions he also describes as frequent; and this may be confined to the cortical substance, the surface of which is marked with irregular depressions filled with serum. The grey substance is sometimes softened throughout its thickness, and changed to a brownish colour; the softening of the grey matter is sometimes so great that it may be washed off the white matter (which is sometimes harder than usual) by pouring water upon it. The medullary substance is frequently injected, showing numerous bloody points when divided; sometimes it is more uniformly discoloured,

and has a purplish hue; sometimes it becomes exceedingly white and indurated; sometimes, however, when indurated, it has a yellowish or grey tinge. Induration of the medullary substance is attributed by M. Foville to the adhesion with each other of the several planes of the fibres, of which he believes the mass of the white substance to be composed, and which are united to each other by fine cellular tissue.

These observations of M. Foville, made partly at the Salpêtrière and partly at St. Yon, are highly important and instructive. They agree, in many respects, as we shall hereafter see, with the precise and admirable researches of M. Parchappe; and although in some respects it may be difficult to verify their correctness in the *post-mortem* rooms of institutions where but a few cases are examined, it is certain that the leading features of the pathological changes in the substance of the brain, which were first indicated by M. Foville, are to a greater or less extent recognisable in a great number of bodies, and amply deserve full and patient investigation, in order to establish their nature and their connexion with the various forms of Insanity.

The researches of Bayle and of Calmeil have reference rather to a particular form of Insanity, namely, General Paralysis, than to the pathology of mental disease at large. M. Bayle attributes Insanity to inflammatory irritation of the membranes of the brain, and paralysis accompanied by loss of mental power (dementia,) to pressure exerted upon the brain by effusions resulting from this inflammatory state.

M. Calmeil attributes Insanity general to a chronic inflammation of the brain, and Gene: Paralysis in particular to a "periencéphalite chronique diffuse.

M. Lélut, who published in 1836 his work upon 'The Value of Cerebral Alterations in Acute Delirium and Insanity,' came to conclusions opposed to those of the authors last mentioned. He sums up the result of his researches as follows:

"1stly. Numerous alterations of the brain and its envelopes are met with in delirium and Insanity, especially in extreme forms of the latter: but these alterations are neither constant nor exclusive.

"2ndly. Hence it must be allowed that the more or less local and coarse alterations in the skull, the brain, and its membranes, cannot be held to be the proximate causes of Insanity. They are,

doubtless, capable of existence with a delirious or insane condition, but they do not constitute this condition; and frequently they are only the exaggeration, the effect, or the transformation of it.

"3rdly. That which may be given as the nearest approach to the proximate cause of delirium, and to the most acute form of Insanity, is inflammatory lesion of the brain and its tunics. But this alteration neither does nor can constitute the state which is anterior to it, and may even destroy life without producing it.

"4thly. The conditions of the brain which approach most closely to the proximate cause of the chronic forms of mental alienation, with or without impairment of motion, are without doubt chronic inflammation of the substance and of the membranes of the brain, its atrophy and induration, which may be accompanied by variations in its specific gravity. But yet these alterations are not the proximate cause of these forms of Insanity, because they are neither constant nor exclusive, and they do not make themselves apparent except in an advanced period of the disease."

The arguments by which M. Lélut arrives at these conclusions appear almost as shifting as the organic lesions which are, and are not, according to him, the cause or the condition of Insanity. Inflammatory lesions of the brain are, according to him, very near being the cause of acute Insanity; but they are not the cause, because they may destroy life without producing Insanity. Chronic inflammations also approach closely to the cause of chronic Insanity (les conditions du cerveau qui se rapprochent le plus de leur cause prochaine); but yet they are not the proximate cause, because they only make themselves obvious after a while.

Some years subsequently to the publication of M. Lélut's book, another eminent French physician, M Leuret published a work on the same subject. The title of this work, 'The Moral Treatment of Insanity,' would lead us to expect views adverse to the somatic origin of mental disease; and such, in fact, is the case. Physicians who treat Insanity with penal remedies are not likely to regard its cause as a pathological condition of the organism; and, on the other hand, physicians who refuse to regard Insanity as a bodily disease, and who interpret its phenomena as manifestations of a fermentation in the spiritual essence, easily and logically persuade

themselves that sharp penal remedies are useful and justifiable in its treatment.

M. Leuret certainly combats the somatic theory, and the pathological facts upon which it rests, with a logical acumen contrasting very strongly with the manner of the author last mentioned, and even of M. Esquirol. While we entirely dissent from his conclusions, we are glad to avail ourselves of his assistance to ascertain the weak points of that doctrine which attributes Insanity to cerebral change alone; a doctrine of the truth of which we are convinced, but the evidence of which needs to be multiplied, confirmed, and arranged, with a care and precision which it has not yet received. M. Leuret believes that he has established the following propositions:

1st. That the authors who believe it possible to establish an anatomical change as the cause of Insanity differ greatly among themselves; thus, Greding asserted that thickness of the bones of the cranium occurs in 77 out of 100 patients, while Haslam found this condition in 10 only out of 100 patients. Hyperæmia of the brain is recorded by Parchappe in 43 cases out of 100; and by Bertolini only in 14 out of 100.

2ndly. That some of the cerebral alterations (to which Insanity is attributed) are by no means well established. Thus, in the cases which are cited of hypertrophy in the brain, it ought to have been established that this was not owing to fulness of its vessels, or to the presence of a serosity in its tissue. These observations have not been made. Again, that which is called a dense brain, or a soft brain, expresses nothing distinctly, except in extreme cases.

3rdly. That the value attributed to certain alterations is deduced from a number of observations by far too small, so that one result frequently invalidates another; thus, M. Parchappe has deduced the average normal weight of the healthy brain from thirteen observations, on men, and nine upon women, and upon this average he establishes the rule for atrophy of the brain. This average is evidently too small, and indeed M. Parchappe gives different averages elsewhere.

4thly. That the pathological alterations referred to Insanity are met with in patients who have never been insane.

5thly. That all authors confess that there are insane persons in whose brains no pathological changes are found.

6thly. That the lesions which are frequently met with among the insane, to which any value can be attached, are only met with in cases in which Insanity has been complicated with paralysis; and that in order to decide if any lesion is the cause of Insanity, it is at least necessary to find it in a case of simple mental aberration, in which there has been no affection of motion or sensibility.

That so able an opponent of the somatic theory as M. Leuret undoubtedly is, should have been compelled to rest his argument upon no better foundations than those above named, appears to afford strong presumptive evidence of the truth of that theory. We shall make some brief comments upon each of his objections.

1st. That authors should differ so greatly in their estimate of pathological changes, as M. Leuret has shown them to have done, can prove no more than that they have been inexact in their observations, or careless in recording them. The objection may to some extent be valid against the value of statistics in pathological science. It may show that one observer counted slight appearances of change, while another only recorded extreme instances; but it can in no way detract from the value of the fact, that all the authors cited did observe the pathological changes they have recorded, in a certain number of cases.

2ndly. That pathological changes of the brain need to be observed with greater exactness than heretofore is undoubtedly true. They have, however, been observed with greater exactitude than M. Leuret admits; for instance, in the case he cites, hypertrophy, it is well established that in this rare condition the brain is paler and drier than usual, and that the increase in its volume cannot be attributed either to fulness of the vessels or to serous infiltration.

3rdly. This objection again applies to the statistical method of proof, as it is too frequently used. It applies, however, to the abuse of this method in all departments of pathological science. Doubtless, those who count observations without estimating them as recommended by Morgagni, misuse the numerical method in their deductions upon all diseases, Insanity included.

4thly. If M. Leuret could show that serious pathological change in the cortical substance of the convolutions has existed in persons whose mental functions have never been affected, he would go far

to upset the somatic theory of the nature of Insanity; but this he has not done, nor, in our opinion, is he likely to do. That some pathological changes which are observed in insane persons, but which are non-essential to Insanity, should occur also in persons who have always been sane, is a fact of no value in the present discussion.

5thly. That in the brains of some insane persons no pathological changes are observable by existing means is not to be denied; but would it not, in these cases, be more philosophical to doubt, with M. Portal, the sufficiency of our powers of observation than to use them as an argument against the existence of all pathological change of an organ whose functions are perverted, but whose structure is not obviously injured. Is M. Leuret able to point out the pathological changes which cause neuralgia, tetanus, chorea, or hysteria, or those by which life is destroyed by a blow on the epigastrium, or by concussion of the brain? Deficient information should lead us to seek for more light, and should by no means induce us to veil that which we possess.

6thly. M. Leuret certainly mistakes the fact, when he affirms that cerebral lesions are only found in those insane persons who are paralysed, for whatever doubt may hang over the primary pathological changes which attend the earlier stages of simple mental aberration, there can be no doubt whatever that the secondary conditions which attend the chronic stages of simple Insanity, uncomplicated with paralysis, are undeniably obvious in degraded nutrition and atrophy of the cerebral organ.

M. Guislain, who for many years was the able leader of psychology in Belgium, classed the lesions of the brain found in Insanity under nine heads: 1st, a state of sanguineous congestion of the meninges, of the brain, or of the two together; 2ndly, a state of serous congestion of the same; 3rdly, cerebral softening; 4thly, opacity and thickness of the arachnoid; 5thly, adhesions of the membranes to each other, or to the brain; 6thly, cerebral induration; 7thly, cerebral hypertrophy; 8thly, cerebral atrophy; 9thly, vices of conformation of the brain and of the skull.

These conditions are, he thinks, in a practical point of view, capable of being reduced to four fundamental alterations—sanguineous congestion, serous congestion, softening and induration. It is open to doubt, however, whether the three latter of these alterations can be considered fundamental; and it is certain that

the four do not include all the conditions which may be considered fundamental. He does not include those aberrations of nutrition known under the names of inflammatory, atrophic, and anæmic.

That M. Guislain admits the existence of such conditions, is abundantly evident from the pages that follow. At page 367, 'Leçons Orales,' tome i, he attributes to the state of congestion, not only ecchymoses of the arachnoid and pia mater, but false membranes, and a red appearance of the arachnoid, "having the aspect of an inflamed conjunctiva."

Such an appearance, and especially the existence of false membranes, cannot be attributed to a state of congestion, and if they occur, should have induced this able physician to have admitted the inflammatory, as one of the fundamental states of the brain in Insanity.

He estimates that, in one fourth of the bodies of persons dying insane, there is a congestionary state of the encephalic mass; but he declares his opinion, that this proportion is far from that which obtains among the living insane, and that the majority of those who are cured have never had congestion of the brain in a notable degree.

M. Guislain says, "The brain and its membranes may have been congested without the existence of a state which can be called inflammatory. If inflammation were always a condition of congestion, would one see the numerous cures which take place among sanguine and robust maniacs, who offer in the course of their disease those symptoms which one often considers to be inflammatory, and which are really only a vascular orgasm, and not a state of phlegmasia? Broussais himself felt this in giving to this condition the name of subinflammatory. It is an afflux of blood, which may in a manner be compared to that injection of the cheeks which accompanies shame and modesty; that injection which makes itself evident in the eyes, over the whole face, the neck, and even over the breast of a man agitated by violent anger."

It is evident, however, that a much more profound and serious change exists in the blood-vessels of the insane brain, than in the transitory blush of modesty or the suffusion of passion. These states are physiological, and leave behind them no tendency to destructive change. The state of the congested brain in Insanity

is pathological, tending to pass into a state of structural change, and respecting the wide deviation of which from a state of health there can be no doubt. If the congestion of Insanity were of the character which M. Guislain attempts to attribute to it, Insanity would be as transient as passion, or passion would be as dangerous as Insanity.

M. Parchappe.—The most careful investigations into the pathological anatomy of Insanity, made in France, are, without doubt, those of M. Parchappe, the Inspector General of Asylums in that country. His first work on the different alterations of the brain in Insanity was published in 1838. M. Parchappe commences by admitting fully, "That there is no single pathological alteration which can be proved to exist in all cases of Insanity; but there are three which have been found in the majority of cases. This is a result which might have been expected. The pathologists who have searched for one essential characteristic pathological change, might have saved themselves a deception. . . . The point which one may reasonably hope to attain to is, to be able to distinguish among cases of mental disease those kinds which are characterised both by the constancy of the symptoms, and by that of pathological change." In M. Parchappe's opinion, the uncertain recognition of pathological alterations in Insanity, and the occasional absence of all appearance of change, disprove, indeed, the theories of those who attribute Insanity to some exclusive pathological condition of the brain—for instance, to chronic meningitis, or to induration of the brain—but they do not prove that these alterations are, as asserted by Esquirol, Leuret, and others, mere complications or consequences of the malady. The alterations which exist in simple inflammation of the brain and its membranes, are not those which are found in Insanity. Those which are found in Insanity may be distinguished into—1st, those which may be considered accidental; 2nd, those which, existing in other maladies, yet appear to play a part in the production of Insanity; and 3rd, those which are believed to be essential to mental alienation. Among the first may be enumerated cerebral hæmorrhages, partial softening of the white substance, disease of the cerebral arteries; and, among the second, thickening and opacity of the arachnoid, hyperæmia of the pia mater and of the brain, serous infiltration of the pia mater, and dropsy of the arachnoid cavity. In the important last

division, this author includes the following changes: subarachnoid ecchymosis, and a partial punctiform injection of the cortical surface, with or without softening, extended softening of the middle portion of the cortical substance, adherence of the pia mater to the surface of the brain; rose, lilac, and violet coloured discoloration of the cortical substance, loss of colour of the cortical substance, atrophy of the convolutions, induration of the brain. M. Parchappe believes, that he is able to establish the following classification of mental disease upon the pathological changes which he has observed. 1st. Monomania; in this form of Insanity, no pathological change is found to exist in the brain, and the probable cause is to be sought in the organic predominance of some portion of the brain, in consequence of its size or activity. 2nd. Acute Mania and acute Melancholia; in these forms of Insanity, the alteration found in the brain to a certain extent resembles those of inflammatory affections of the organ. They are hyperæmia of the pia mater and of the cortical substance, partial injections of the subarachnoid tissue, punctiform injection, and occasional softening of the cortical substance; it is rare that the meninges are found extensively thick and opaque. The above alterations are usually more decided in acute Melancholia than in acute Mania. In sympathetic Mania, that is, in Mania occasioned by the irritation of some part of the distal nervous system, no anatomical changes may be discovered if the examination is made during the early period of the disease; but after a while, the brain passes from the state of physiological excitement into that of pathological change, and then the above alterations may be expected to be found on examination. 3rd. Simple chronic Mania; in this form of Insanity, the aspects of the brain are altogether different from those which prevail in the acute paralytic forms of Insanity; they are—atrophy of the convolutions with loss of colour and induration of the cortical substance, or of the medullary substance, or of both; serous infiltration of the pia mater, and dropsy of the ventricles, connected with, and consequent upon, general atrophy of the brain. 4th. Paralytic Insanity (general paralysis). In this the essential alteration consists in softening of the middle layer of the cortical substance; very frequently, also, the pia mater is thickened, adherent, and infiltrated; in the acute form, the cortical substance is hyperæmic and deepened in colour, and the pathological appearances of acute

Mania are present. In the chronic form, the cortical substance has lost colour and become thin; atrophy of the convolutions, and the appearances of chronic Mania are present. 5th. Epileptic Insanity. In this the alterations resemble those of simple chronic Mania.

In 1841, M. Parchappe published his 'Theoretical and Practical Treatise upon Insanity,' a work more fully devoted to necroscopic record than Andral's 'Clinique,' or Lallemand's 'Letters.' M. Parchappe attempts to establish his deductions by the numerical method; and in this we think he has fallen into an error; first, because the number of cases upon which he founds his averages are, under some heads, insufficient to establish a trustworthy average; and secondly, because he has, in several instances, adopted methods of comparison which are open to much objection. The manner in which he arrives at an estimate of cerebral atrophy is objectionable, on account of both of the reasons above given. He founds his estimate upon a comparison between the weight of the brain examined and the average weight of healthy brains. Now it is evident that, if the diseased brain has originally been heavier than the average, a considerable atrophy might fail to be shown by a comparison of this kind. An atrophied brain, of large size, may still be heavier than the average of healthy brains.

M. Parchappe's average weight of the sane brain may have been deduced from average individuals; but he could make no selection of this kind for the other side of the comparison. The insane person whose brain has to be examined and compared, may have been a well-developed man, with all the organs above the average size, or with a brain originally large or small in comparison with the rest of his body. So true is the addition which Morgagni made to the dogma of Hoffmann, "*Ars medica tota in observationibus.*" Morgagni wrote, "*sed perpendendæ sunt non numerandæ observationes.*"

In the *résumé* upon thirty-eight autopsies of persons dying in the *acute stage* of Mania and Melancholia, M. Parchappe (p. 45) affirms the same principles which he has enunciated in his former work, especially the absence of any essential and exclusive encephalic alteration. He affirms, moreover, that these dissections prove the existence of an analogy as strong as possible, if not perfect, between the cerebral alterations found after acute Mania and those of acute Melancholia; and therefore he concludes, that

the distinction between these two states is not justified upon pathological grounds.

The thirty-eight examinations afford the following *résumé* :—In thirty-six the brain was the seat of hyperæmia, either in its periphery, its membranes, or its substance; in seven instances the hyperæmia was simple; in twenty-nine it assumed the form of subarachnoid ecchymoses; in twenty-three instances there were subarachnoid ecchymoses, with punctiform injection of the cerebral surface; and in seventeen of the latter there was also softening of this surface. Sixteen times the cortical substance was reddened in colour. In one case there was no apparent encephalic alteration whatever; and in several the alterations were inconsiderable. It is needful, therefore, to admit that the pathological condition of acute Insanity is of such a nature that it is possible for it to leave no naked-eye appearance of change. Taken singly, none of the alterations described can be held to express a pathological state of the brain which corresponds to the abnormal psychical manifestations; but examined collectively, these alterations afford an idea of the pathological character which must be attributed to that state—namely, that of hyperæmia. This condition was only absent in two cases out of the whole thirty-eight; and it is very probable that hyperæmia also existed during life, even in the two cases in which there was no trace of it after death. The thickening of the meninges, and the superficial softening of the cortical substance, which are so frequently found, would also indicate that this hyperæmia is not that of simple but that of active congestion.

"A legitimate induction may, therefore, be derived from the fact," says this author, "to the effect that there is usually, during life, an active sanguineous congestion of the brain coexisting with the symptomatic phenomena of acute Insanity." "One may even recognise, up to a certain point, a relation between the intensity of the symptoms during life, and the extent of the alterations after death."

Of chronic Insanity, M. Parchappe details the appearances of 122 cases, which may be summed up as follows :—In seven instances there were no alterations, or almost none; in eleven instances the alterations were simply hyperæmic; in five the two substances were softened; twice there was induration of the true cortical substance alone; eight times there was induration of the white substance alone; twenty times there was induration of the

two substances; sixty-one times there was atrophy of the cerebral convolutions; sixty-four times there was hyperæmia, which was simple in forty-six cases, and in eighteen combined with ecchymoses, and in two cases with injection and softening of the cortical substance. This substance was coloured red five times. It was deprived of its [normal?] colour fifty-nine times.

It is evident, says M. Parchappe, from these facts, that there is no essential and characteristic pathological appearance in chronic Insanity. There may be no trace of pathological change after death, or only the unimportant one of simple hyperæmia. But the alterations are remarkably different from those which belong to acute Insanity. In the latter, the predominant alterations are hyperæmic conditions, with arachnoid ecchymoses, injection and softening of the cortical substance. In chronic Insanity, the predominant alterations are atrophy of the convolutions, and induration of the two substances. "The symptomatic differences in the two forms of Insanity correspond generally with the pathological differences in the organ of intelligence." In chronic Insanity, the predominant state is pathologically opposed to the hyperæmic condition of acute Insanity; and the atrophy of the convolutions, especially, expresses a movement of the plastic force opposed to that which represents active hyperæmia. "The predominant alterations in chronic Insanity express, in general, a state of diminution of the plastic activity; a state diametrically opposed to that expressed by the predominant alteration in acute Insanity, which has been shown to be active sanguineous congestion, representing the physiological principle at the highest point of plastic activity. And these conditions of the organism coincide with the psychical symptoms peculiar to the two forms of disease which present two opposed dynamical states—the one in which psychical activity is in a plus and the other in which it is in a minus condition."

M. Parchappe concludes his valuable treatise with a chapter upon the appearances of the healthy brain. From an early period of his investigations, he had instituted comparative examinations of sane and insane brains, having both before his eyes at the same moment. On this point he says:

"I have thus been able to assure myself how inexact is the assertion frequently made, that between two brains of this kind, it is absolutely impossible to distinguish that which belongs to In-

sanity. The contrary assertion would be much nearer to the truth, especially if one did not make it without some restriction. In regard to paralytic Insanity, at least, it may be said, that the difference strikes the eye, and can only be mistaken by prejudice or inattention."

He sums up the characteristic appearances of the sane brain as follows :—"Extreme tenuity and perfect transparence of the arachnoid, and of the pia mater. Absence of subarachnoid serous infiltration. The membranes may be detached from the convolutions without producing decortication. When the cortical substance is soft, and the membranes begin to become dry, it may happen that, in circumscribed points, they detach with themselves flocculi, and even small plates of the cortical substance. The cortical substance is of a grey colour, of which the shade varies a little in different individuals, and in the same individual in different parts of the thickness of the substance. To the naked eye the shade of the surface does not appear paler than that of the deeper parts. The internal portion is, perhaps a little deeper in colour, and between the two we can sometimes distinguish an intermediate shading, paler than either. The medullary substance is of a pure and striking whiteness. The consistence of both substances is considerable when the death has been recent and the temperature moderate. The white substance is rather more firm than the grey. The surface of the ventricular membrane is smooth and brilliant, sometimes offering very fine granulations. The cut surface of the white substance is sometimes dotted with a small number of red points. Under the influence of the air, the blood in the vessels becomes more brilliantly red, and the cortical substance takes on a rosy tint, which gradually becomes deeper, but which never attains the intensity which characterises pathological alteration of colour of this substance. The influence of time and a high temperature, produces softening and commencing putrefaction, and causes the detachment of flocculi with the membranes, like that produced by the drying of the membranes from contact with air. The convolutions are pressed together, only offering space for imbedding the pia mater; and when the membranes are removed they still touch, and if separated, they return to their apposition on account of their elasticity, and the anfractuosities efface themselves. The thickness of the cortical substance varies in the anterior lobes from two to three millimeters, and on the

convexity, and at the base, from two and a half millimeters to five."

The eminent author we have here freely quoted, has done excellent service to the cause of a rational pathology of mental disease. He has excluded all speculative hypothesis upon the nature of mind and its aberrations, and has set a worthy example to his successors in the careful and laborious manner in which he has observed and recorded the facts upon which alone any trustworthy knowledge in this as in all other departments of science can be founded. We are far from agreeing in all particulars with M. Parchappe, but to the spirit of his inquiries, and to his general results, we give our hearty adherence. These results, however, require to be accepted with some limitations and exceptions; and, as we hope hereafter to show, many additions to them must also be made, to present a correct general idea of mental pathology. It is, however, no small praise to an author to affirm, as may with truth be done of M. Parchappe, that no candid investigation, even into his errors and deficiencies, can be made, without advancing the science of which he treats.

The principal error in which M. Parchappe appears to have fallen is that of having made too abrupt a classification of Insanity into acute and chronic. The phenomena of the disease by no means justify a distinction of this kind so sharp and sudden as to lead to M. Parchappe's assertion, that the two forms of the disease present pathological conditions essentially opposed to each other. Doubtless the pathological appearances presented in a typical case of each form will sometimes contrast with each other as remarkably as he insists; but a large proportion of cases of Mania and Melancholia have never been acute; and a large proportion of cases which are unquestionably chronic in point of duration, present at intervals, all the symptoms of acute disease, and after death present an intermixture of those pathological conditions which M. Parchappe has described as opposed to each other from their very nature. Nothing is more common than for an atrophied brain to suffer from temporary hyperæmia. It is a pathological law, that injured and ill-nourished organisms are liable to sudden congestions, almost in proportion to the amount of deficiency in their nutrition. Hyperæmia is moreover peculiarly liable to take place in the atrophied brain in consequence of the loss of external support which the organ has sustained by

shrinking away from the cranium. The lengthened, tortuous, and dilated vessels of the pia mater, in atrophied brains, indicate the frequency with which they have been in a hyperæmic state.

The form of mental disease which destroys life in the early period of its course is comparatively rare, and has been thought by many modern writers to be a distinct form. The French alienists of the present day call it *Délire aigu*, and distinguish it from recent Mania and recent Melancholia. In the brains of persons who have died while suffering from this form of Insanity, the strongly marked characteristics of hyperæmia of the substance and the membranes, even to the subarachnoid ecchymoses described by M. Parchappe, undoubtedly exist. But in the recent cases of Mania and Melancholia of most frequent occurrence, if death were to occur from some accidental cause or intercurrent disease, which did not interfere with the state of the cerebral circulation, it is by no means so certain that strongly marked signs of hyperæmia would be found to exist. In many cases of recent Mania, indeed, a condition of the brain, the very opposite of hyperæmia is known to be the condition of disease, both from the nature of the cause, the effects of the remedies, and the *post-mortem* appearances, when chance has afforded an opportunity for observation. The fact, that all the symptoms of acute Mania frequently arise, and continue throughout the course of an exhausting bodily disease, which leaves every individual organ, the brain included, in an ill-nourished and anæmic state, affords irresistible evidence that the phenomena of acute Insanity must in many cases coexist with a state of the cerebral organ, the very reverse of hyperæmic. The rapid formation of ideas is so remarkable a symptom in acute Insanity, that M. Parchappe, in common with M. Falret and others, considers it as a proof that the psychical activity is in a state of exultation; and he, logically enough, infers that the plastic activity of the organ of which psychical activity is the function, must also be in a state of exaltation, or, as he expresses it, in a *plus* state. This, however, is not unconditionally true. Doubtless, in some cases, and for a short time, active hyperæmia of the brain, attended by a rapid nutrition and decomposition of its substance, and accompanied by quick-flowing ideas and fancies, may be the condition of Acute Mania, as it is the condition of cerebral excitement in the early stage of intoxication. But it

is an error to suppose that a rapid flow of ideas is always a sign of that psychical activity which depends upon an exalted state of cerebral nutrition. There is an idea-forming activity which resembles palpitation of the heart from weakness; and ideas frequently flow through a debilitated brain in rapid succession, because the mental impression made by each of them is feeble and transitory. Doubtless they follow a certain train, but this is of the most desultory kind, because the organ answers to the faintest touch. The Germans have a curious term for this impressive and remarkable condition of the mind. They call it *Ideenjagd* (idea-hunt). It is a hunt in which there is nothing hunted; or, like the chase of the ocean billows, where the old are ever vanishing and the new arising, without evident purpose or end.

Griesinger.—We may fitly conclude this account of the opinions entertained on this subject by eminent French psychologists by giving the summary with which the great professor of Berlin concluded his instructive chapter on the Pathology of Insanity.

"Keeping in view the great and well-constituted results, negative as well as positive, and altogether excluding rare and more isolated observations, we shall attempt in the following paragraph to compare the various states of psychical disease with the anatomical conditions which most frequently correspond to them."

"*Acute Insanity.*—As in a considerable number of cases of Acute Insanity the brain, on anatomical examination, appears perfectly healthy; it must, in the present state of science, be assumed that the symptoms very often depend upon simple nervous irritation of the brain, or upon disorders of nutrition which are as yet unknown.

"When palpable disorders exist, they consist chiefly in anæmia with more or less serous infiltration, or (more frequently) in hyperæmia of the entire brain, and particularly in simple and ecchymotic hyperæmia of the delicate membranes and cortical grey substance. These hyperæmias appear sometimes to produce, and at other times merely to accompany, other morbid processes of nutrition which lead to further consequences.

"This hyperæmia is frequently accompanied by thickening and opacity of the membranes, the result of chronic stasis. This may, in certain cases, proceed from the same causes as the hyperæmia itself; in others, however, it may be the result.

"There is no constant distinct anatomical distinction between Melancholia and Mania; the disorders in both forms are, nevertheless, not entirely identical.

"In Melancholia the brain appears perfectly healthy, more frequently than in Mania; when an anatomical lesion exists, it does not consist in hyperæmia so frequently as in Mania, but rather in anemia with greater consistence of the cerebral substance or with more or less serous infiltration.

"Mania presents more rarely than Melancholia no lesion or simple hyperæmia. The hyperæmia is more profound and more intense (sometimes attaining to an erysipelatous hue of the entire cortex), and it more frequently proceeds to inflammation and softening, which affect the cortical substance in only certain layers, sometimes the middle, sometimes the external layer. The rapid occurrence of extended softening of this kind frequently corresponds to a state of profound Dementia which precedes death. The intense hyperæmias which accompany or produce the softening appear partly to determine the violent maniacal excitement. Frequently, also, when the Mania is of long standing there is found pigmentation of the cortical grey substance.

"*Chronic Insanity.*—Cases in which no anatomical lesion is found are here rarely observed; the same may be said of simple hyperæmias. Opacity and thickening of the membranes are common (much more so than in acute Insanity).

"Many cases present lesions which are never observed in the former class; viz. atrophy of the brain, particularly of the convolutions, chronic hydrocephalus, effusions into the subarachnoid space, pigmentation of the cortical substance, extended and profound sclerosis of the brain. Here, softening is not so frequently met with in the superficial cortical layer as pigmentation, superficial induration, and adhesion of the pia mater; all in very various degrees.

"In these states, but, perhaps, also in the acute stages, slight superficial inflammations of the ventricular walls must necessarily be of frequent occurrence. The granular condition of the ependyma and the frequent adhesions of the ventricular surfaces demonstrate this.

"When the disease reaches the chronic stage, hyperæmia ceases; when it does exist, it is of the nature of hyperæmia *ex vacuo*;

sometimes the more or less atrophied brain is anæmic and œdematous. All the changes in the brain are less indicative of active processes than of consecutive states and residues of former processes, and of marasmus corresponding to the character of the symptoms observed during life.

"Between Partial Dementia and Dementia there is as little difference, anatomically, as between Melancholia and Mania; still, generally speaking, considerable atrophy of the brain corresponds to a condition of profound mental weakness. The reverse, however, does not hold good.

"We arrive at the following general conclusions:

(*a.*) Insanity, whether acute or chronic, may be the result of simple abnormal excitation or nutrition of the brain, without the existence of any palpable change.

(*b.*) In the majority of cases this is not the case; it depends upon palpable diseases which are generally distinct in proportion to the duration of the Insanity. These consist partly in hyperæmia and inflammatory processes, which, as a rule, are first observed in the pia mater and cortical substance, penetrate to various depths of the cerebral substance, and, if not arrested, terminate in incurable destruction and atrophy of the cerebral substance, a lesion to which the group of symptoms of Dementia corresponds.

(*c.*) Frequently, however, it is non-inflammatory changes in nutrition, recognised only in their final results—viz. marasmus of the brain, which corresponds to the serious secondary forms. The initiatory periods and stages of development of these nutrient changes, which correspond to the primary forms as yet are uninvestigated. To these processes we may give the name of *atrophic irritation of the brain.*

(*d.*) Our knowledge of symptoms is not yet so far advanced as to enable us to state with certainty whether in a given case of Insanity, anatomical changes exist, and where they are situated; but the facts which we observe enable us to speak with as much confidence as we can in any other diseases of the nervous system.

(*e.*) The most important circumstance in regard to anatomical diagnosis and prognosis is the existence or non-existence of *severe motory disorders,* in particular of general progressive

paralysis." (Griesinger on 'Mental Diseases,' Robertson and Rutherford's translation, pp. 432, 434.)

Since the last edition of this Manual was published, a great advance has been made in the investigation of the normal and morbid histology of the brain. This work is difficult and special, and requires great industry, skill, and devotion to its pursuit. It is not every one that has the organic capacity to use a microscope thoroughly well. If every one could do so as easily as he can look through an opera glass, pathological anatomy would make rapid strides; but it is not so, and, perhaps, the astronomer's great instrument requires less skill and use than that of the modern pathologist. And when the armed vision has been educated, the great qualities of judgment to criticise and determine what is seen, and of faithfulness to record it, are imperatively demanded. These conditions being given and opportunities found, we may confidently trust the microscopist in observations where we can follow him with the reason though not always with the sense. That different microscopists differ so much from each other and even from themselves is but a proof that they pursue a most difficult art. Thus, His who first discovered the lymphatic canal surrounding the cerebral vessel is, now that others are beginning to see and describe it, the first himself to give it up. This space, as Dr. Batty Tuke observes, is visible in animals who have died with anæmic brain, and invisible in those whose brain is congested. The changing conditions of these fine observations are but beginning to be known and appreciated. The author of these pages has not had the good fortune to become a skilful microscopist. Perhaps he may be permitted to say that he pursued the microscopic investigation of morbid brain until irritation of the retina imperatively forbade its continuance, and that he ever regards this physical incapacity as no slight misfortune. In the meanwhile others have been working in this new field of research, Lockhart Clarke, Bastian, Moxon, Allbutt, Kesteven, Rutherford, and others; but of all these we venture to say that no one has more skilfully and devotedly used great opportunities than Dr. Batty Tuke, of Edinburgh, who was the first histologist in this country who systematically examined prepared specimens of the brains of persons dying insane, and it is with complete confidence that we have confided to him the difficult and responsible task of laying before our readers the

present state of knowledge as to the histology of the insane brain. We have had the opportunity of examining the specimens which Dr. Batty Tuke has selected, and of comparing them with his beautiful illustrations, which form a faithful and perfect reflex of them.

We trust that this original contribution from Dr. Batty Tuke will bring the pathology of our subject up to the present date of correct knowledge, but, because histological investigation has advanced, we shall not omit the due consideration of naked-eye appearances. These, of late, it has been the fashion to depreciate with as much philosophy as a child shows when he breaks his old toy because he has a new one; and we entirely disagree with Dr. Blandford when he states that all the records of former autopsies made with the naked eye are so much waste paper. In our opinion naked-eye appearances must ever be the common foundations of pathological knowledge, and the triumph of cerebral histology will occur when it has taught us to recognise with the naked eye what condition of the tissues we should find with the microscope. As well might the naked-eye appearances of the lungs, the stomach, or the kidney be discredited because the microscope has taught us to understand them. Moreover, there are naked-eye appearances which stand by themselves as most important facts to which it is possible that histological research will hereafter add greater value. It may or it may not do so, but in the meanwhile they have an intrinsic value, which it would be mere pedantry to ignore. Take, for instance, the naked-eye appearance of abscess of the central white matter without affection of the mind, and contrast it with the naked-eye appearances of the meninges and cerebral cortex which are never seen without mental disturbance. Are the records of such facts mere waste paper? Histology has taught us and will teach us much, but we venture to think that even in the brain, and certainly in the body at large, naked-eye appearances have taught us more. Let us worship the rising sun with rational devotion and not act like "the idiot who takes his bauble for a God."

Our own Pathological Observations.—We shall, therefore, now describe the naked-eye appearance which we have ourselves observed in the dissection of the bodies of the insane.

On making the examination, it is our custom to note the size of the bony frame, measured by the length of the body and its

breadth across the shoulders and hips. This affords a much better standard with which to compare the size of the head and weight of the brain, than that afforded by the weight of the body, which has been adopted for this purpose by some pathologists. The weight of the body varies so greatly between the obesity of Dementia and the emaciation of Mania and Melancholia, that the standard it affords is most untrustworthy.

Careful observation, however, should be made of the state of emaciation or obesity; also of any bruises, or bruise-like marks; any bed-sores or deformities. The features, after death, generally lose all expression characteristic of mental disease. The examiner is frequently surprised at the regularity of feature and placidity of expression in countenances which, to the last hours of life, had been disfigured by the peculiarities of insane physiognomy. Even the heavy and relaxed features of General Paralysis are braced up after death, and return to their normal expression. Often have we felt that we have never seen the sane expression of a patient's face until after his death.

The Scalp and Cranium.—The dimensions and form of the cranium should be noted. Although we believe that in the insane the average dimensions of the head are below those of the sane, when the comparison is obtained by the examination of large numbers; still, in a great number of instances, they will be found to be good; and, indeed, the head is frequently not only large, but phrenologically well shaped.

We are not aware in what proportion of the sane the shape of the head is peculiar, since it is rare that opportunities occur for making exact observation upon them; but among the insane a considerable proportion present decided peculiarities in the shape of the cranium. The most frequent one is a want of symmetry between the two sides. One side is rather flatter or smaller than the other; or the whole cranium is pushed over a little to one side; or one side is a little more forward than the other; or the two anomalies coexist, giving the cranium a sort of twisted appearance. These things will not be seen unless they are looked for, with accurate and careful eyes, upon the shaven scalp.

Sometimes the skull is high and dome-like; more frequently it is as if it had been compressed laterally, and elongated from before backwards—keel-shaped, in fact, like the skulls figured by

Dr. Minchin, in the 'Dublin Medical Journal,' in which the centres of ossification of the parietal bones are increased in number. Sometimes the forehead is preternaturally flat, narrow or receding, or very large and bulging; or the occipital region is deficient, and the back of the head rises in a straight line with the nape of the neck. Sometimes the skull has a remarkably square configuration. The square and the carinated form of skull we have most frequently seen in connexion with Mania; the dome-like and high vertical skull, and also the unsymmetrical skull, most frequently in Melancholia. In Mania, the anterior cranium is more frequently of good shape and size than in Melancholia. In the latter the forehead is often small and mean, but sometimes it is disproportionately large and globose. The shape of the head as it ought to be according to the rules of phrenologists, can only fairly be expected to coincide with the mental symptoms, in those somewhat rare instances in which Insanity is the mere development in excess of natural character; and in some such instances we have found the shape of the head tally, in its general outline, with the indications of phrenology.

Occasionally, depressions are found in the outer skull, which sometimes do, and sometimes do not, correspond with the bulging in of the inner table of the cranium. When they do not so correspond, we have found that they indicate a local absorption of the diplöe.

It is an interesting question how far the shape of the skull alters in Insanity. If the forehead expands, even in mature age, under the influence of intellectual development, it is likely that it will contract under the influence of intellectual decay. Some writers have asserted that the shrinking of the brain in atrophy is commonly, and to a considerable extent, followed, and the cranium filled, by a flattening and shrinking of the cranial bones. (See Paget's 'Lectures on Pathology.')

Rokitansky also affirms that atrophy of the brain frequently gives rise to deposit of bone on the inner table of the skull, especially about the anterior convolutions.

We have not satisfied ourselves that the increased thickness of the cranium which is frequently met with in the insane, is in any way connected with atrophy of the brain. Some of the thickest and heaviest craniums which we have met with, have occurred in instances in which there was little or no cerebral atrophy;

and the condition of the cranium where there is undoubted atrophy of the brain, is not unfrequently one of abnormal tenuity.

In pursuing the examination, the state of the ears and of the scalp should not be overlooked. The sanguineous tumour of the ear peculiar to the insane, and the shrinking of this appendage consequent upon such tumour, are noteworthy objects of attention. These tumours, for the most part, occur in the worst and most hopeless cases; but it is an error to suppose, as some authors have done, that they occur in such cases only. We have not only seen patients recover after the ear has been shrivelled up by the contraction subsequent to sanguineous tumour, but we have seen several patients labouring under quite recent Insanity, in whom a shrivelled ear led to the information that a curable attack had been undergone many years previously, an attack which had been followed by perfect mental sanity of considerable duration.

The scalp is sometimes full of blood, sometimes marked with scars and contusions, telling of blows and falls. In old cases of Mania it is sometimes remarkably loose upon the cranium.

The cranium itself is frequently altered from its normal condition. When thicker and heavier than usual, it is also soft and full of blood. The eburnated cranium, which is at the same time thick, dense, and devoid of blood, has not been found by us in the bodies of those dying insane. In recent cases, the only abnormal condition to be expected in the cranium is its discoloration from excess of blood. This is often evident, not only at the margin where it has been separated by the saw; but also over the whole extent of its inner surface, after the dura mater has been separated, it often presents a mottled, but decided discoloration, from sanguineous congestion.

In chronic cases, the skull-cap is sometimes thicker than usual, congested with blood, and soft in its texture; sometimes thinner than usual throughout, or partially. In the latter case the thin portion usually occurs in the parietal region, in which the diplöe frequently disappears to such an extent that the skull becomes diaphanous. The thin diaphanous skull is met with in all stages, but most frequently in cases of very chronic Mania and of Dementia, in which the patient has not been subjected to temporary attacks of cerebral hyperæmia. On the other hand, a thick and heavy cranium is mostly met with in cases of chronic Insanity,

which have been subject to attacks of congestion, or hyperæmia *e vacuo*. The cranium is often strongly marked by indentations produced by the Pacchionian bodies. Not unfrequently, also, the crista galli is elongated and enlarged; and in epilepsy the protuberances of the sella turcica are enlarged, and the marks of the gyri of the convolutions are more strongly impressed, especially in the middle fossæ.

Exostoses, or spiculæ of bone, growing either from the vault or the base of the cranium, have been exceedingly rare in our autopsies. In 400 examinations of persons dying insane, including a large proportion of epileptics, we have only found a cranial exostosis in three instances. The dura mater is frequently found adherent to the cranium. In old cases, indeed, it is rare to find that this membrane separates from the cranium with its usual facility in adults. The degree of adhesion which exists in chronic Insanity varies, from that which can scarcely be called abnormal, to such a close and intimate union, that on the application of force the membrane splits into layers, rather than part from the bone, from which its fibres cannot be separated except by hard scraping. In acute cases, the dura mater is sometimes discoloured by sanguineous congestion.

The Dura Mater.—Recent anatomists discard the old view, that the inner polished surface of the dura mater is a reflection of the arachnoid. It certainly cannot be demonstrated by the scalpel, that any serous membrane lines the dura mater; and the idea of a parietal arachnoid appears to have been due to the exigiences of systematic anatomy, rather than to the evidence of demonstration. We adopt the view that there is no parietal arachnoid, and that the polished surface is actually part of the dura mater. This polished surface is not unfrequently the seat of exudative processes in the insane, although it is rare to find in this locality exudations of a true fibrinous character, the results of undoubted inflammation; notwithstanding the assertion of Rokitansky that the surface of the brain and the skull, being bound together by a series of successive normal and false membranes, is a "termination of meningitis frequently found in mental disease, especially in cases of secondary imbecility." Notwithstanding this high authority to the contrary, we must assert, that adhesions between the cerebral arachnoid and the dura mater are extremely rare in the bodies of persons dying insane. On the upper part of the

brain we have never met with the state of things referred to by this author. The nearest approach to it that we have met with in this region has been the connexion of the dura mater with the thickened arachnoid and pia mater, by means of several ligamentous bands, the condensed and organised remains of very moderate fibrinous exudation. In two instances, we have met with adhesion of the substance of the brain and its intervening members to the dura mater, along the petrous portion of the temporal bone; and in one instance, along the ridges formed by the alæ of the sphenoid. It is an occurrence of much greater frequency for the polished surface of the dura mater to be the source of an exudation not fibrinous, and not tending to contract adhesions. These exudations are very remarkable, and by different authors have hitherto been generally regarded—either, when much coloured with blood-pigment, as instances of sanguineous effusion into what was considered the sac of the arachnoid, or as false membranes arising from arachnoidal inflammation. That instances of these latter conditions are not very unfrequent, renders it the more needful to distinguish the peculiar exudation to which we refer. It resembles a layer of red-currant jelly spread over the dura mater. On examination there appears to be an extremely fine cellular network, containing in its meshes an albuminous fluid substance, coloured with blood-pigment. Sometimes the exudation extends to the temporo-sphenoidal fossæ. Sometimes it is confined to this locality. Virchow has, quite recently, announced its nature to be that of a colloid tumour, flattened into the resemblance of a false membrane by its position. We adhere to the belief that it is an albuminous exudation, containing a small proportion of fibrine, and coloured with blood-pigment. Sometimes true hæmorrhage is found on the inner surface of the dura mater. On the appearance of this as a layer, Rokitansky observes, "Those extravasations which have been supposed to be collections of blood between the serous and fibrous layers of the membrane, with the exception of a few cases in which a small effusion has raised its innermost layer, must have been extravasations into the sac of the arachnoid, which, after acquiring an adhesion to the dura mater, have become encysted." (Vol. iii, p. 323, Sydenham Society's Translation.)

In many instances of chronic Insanity, and of recent Insanity in which there had been a previous attack, we have found the

dura mater in the temporo-sphenoidal fossæ changed to an orange-yellow colour—not uniformly, but as if freckled. Doubtless this discoloration was due to the blood-pigment of reabsorbed hæmorrhages or exudations; and it points, like the other changes so common in this membrane, to the frequent existence in Insanity of one period during which the appendages of the brain are in a hyperæmic state prone to hæmorrhages, and to albuminous or albumino-serous exudations, coloured with dissolved blood-pigment. The coloured exudations above referred to seem to us to bear a close resemblance to the exudations of blood-coloured serum which take place between the cartilages of the ear, and to be owing to the same crasis.

Sometimes the structure of the dura mater is found to have undergone osseous metamorphosis. We have never observed this occurring in the tentorium, where comparative anatomy would lead one most to expect it. We have, however, found it in the falx cerebri. Exostoses of the inner table of the skull probably have their origin in the dura mater. We have only once found a true tumour of the dura mater. This was as large as a filbert, pressed upon the pons, and was accompanied by epilepsy. Its structure was fibro-cellular, and it contained an abundant quantity of cholesterine in large plates.

The Arachnoid.—We have never found a state of undoubted inflammation presenting the appearance of the inflamed conjunctiva, as described by Guislain. In a few cases of acute Mania and Melancholia, we have observed the appearances of ramiform congestion; but it may be doubted whether this was not due to the underlying vessels of the pia mater. Doubtless, in some cases, the hyperæmia in the capillaries of the arachnoid amounts to actual stasis, otherwise the fibrinous false membranes, and the adhesions which are sometimes observed in it, would scarcely exist. A frequent change of this membrane, found in persons dying insane, is thickening with opacity. "The arachnoid tissue," says Rokitansky, "is opaque, dull like whey or milk, tumid and white, and it has the appearance and density of tendon." Often this change is limited to the arachnoid covering the convolutions of the vertex; sometimes it is restricted to that part of it which corresponds to the sulci, leaving the part which covers the convolutions thin and transparent. Patches, however, of very decided thickening with opacity are occasionally found on the anterior

convolutions of one or other hemisphere. The changes observed in the vertical region are rarely one sided, or even greater on one side than on the other. What does thickening with opacity of the arachnoid indicate? According to the above author, the "changes frequently discoverable in this membrane can be attributed only to congestion, or to slight and passing attacks of inflammation." "Opacity and thickening of the arachnoid are very common *post-mortem* appearances. After middle life a moderate degree of them is almost constantly found, and their absence is the exception; for, at that period, every one must have been exposed to repeated congestions of the brain and its inner membranes." (Op. cit. p. 329.) The change here referred to as being so common, is, although the same in nature, greatly less in degree than that commonly found in the bodies of persons dying insane. It is merely an opalescence as compared with decided thickening and opacity like a thin slice of the boiled white of egg. The frequently repeated congestions to which Rokitansky refers this change in the sane, exist in much greater force and frequency in the insane, and give rise to a corresponding intensity of this pathological change. It appears not to be so much the result of inflammation, even of "slight and passing attacks," as of congestion. In nature it closely resembles those opaque patches so frequently found upon the visceral pericardium. Its character is that of albumino-fibrous deposit, forming one link in the chain of degenerative change, which passes, according to its locality, into atheroma or into fat.

In connection with the arachnoid are the Pacchionian bodies, absurdly called glands. These Rokitansky regards as granulations of the arachnoid, rarely indeed altogether absent, but depending for their development upon the same repeated congestions which render the arachnoid itself thick and opaque.

Luschka, however, has recently shewn that these bodies are normal as to their existence, and pathological only as to their hypertrophy. He calls them *arachnoidal villi*, and refers the genetic cause of their growth to "the disturbances of the circulation which attend the natural involution of the organism in old age. In consequence of the impeded motion of the blood, a modified transudation must take place, which (in our ignorance, it must be confessed, of its precise nature) we regard as the principal cause of the increased amount of nutritive material with

which the arachnoid is supplied." (Wedl, Sydenham Soc. Trans., p. 352.)

Now, in the insane of all ages, the Pacchionian bodies are frequently found to be greatly enlarged, so as not only deeply to indent the dura mater, but even to perforate it and to form for themselves reception-cavities in the parietal bones alongside the saggital suture. Before the circulation has become impeded by the advance of age, they are prematurely produced in the insane by the impeded circulation of cerebral congestion, the frequent condition of mental disease.

The *ependyma* of the lateral ventricles and the arachnoid membrane in this locality we have frequently observed to be the seat of those puzzling bodies, the amylaceous corpuscles. This ependyma is described by Virchow as the uppermost layer of the fine connective tissue, the neuroglia or nerve cement, which binds together the foundation masses of the brain. Be this and the arachnoid of the ventricles identical or not, it is certain that the walls of the lateral ventricles present, in chronic Insanity, and especially in General Paralysis, a peculiar and frequent change. They appear to be covered with fine sand, or rather to be converted into the resemblance of fine shagreen; a change due to a nodulated deposit of fibro-albumen.

The arachnoid of the ventricles also becomes more thick, dense, and tough; a change which is obvious in the septum lucidum, which in the early stages of General Paralysis, and in the later ones of chronic Mania, becomes a toughish and resistant membrane, instead of retaining the exquisite delicacy which renders its demonstration so difficult in health.

Griesinger remarks the frequent occurrence of dilatation of the lateral ventricles in the insane, occurring in the great majority of cases with diminution of the cerebral mass, and more or less disease of the ventricular surface, and he considers that most frequently it is merely the necessary result of atrophy of the brain. In very few cases can it be considered the primary process and fundamental cause of the symptoms by paralysing the mental faculties through the pressure it exerts. Every small dilatation of the ventricles, however, must not be considered abnormal.

The Pia Mater—tender mother of the brain and its wondrous offspring of thought and passion—is far more closely and intimately related, both in health and disease, with the organ to

whose more noble parts it supplies nutriment, than either of the other meningeal wrappings. The pia mater is more than a mere investing membrane; it is more than a subserous connective tissue of vascularity greater than is common to such parts. It is a vascular plexus, so loose and large in its ramifications as obviously to suggest the idea that its construction is subservient to rapid and great changes in the blood supply of the convolutions. What the submucous vascular layer of the stomach is to the function of digestion, the pia mater appears to be to the higher functions of the brain; and it is more than probable that active thought or intense emotion causes in it hyperæmia as sudden, frequent, and transitory, as the function of digestion gives rise to in the vascular layer of the stomach. One part of this plexus, or rather an appendage to it, the choroid fold within the lateral ventricles, has a structure analogous to, if not identical with, erectile tissue. Upon this resemblance an ingenious writer in the 'Dublin Quarterly Journal of Medicine' has based his theory, that sleep in the normal state, and epilepsy in the abnormal state, are dependent upon a turgid or erectile condition of this apparatus, by means of which a gentle but general pressure is exercised from within upon the whole substance of the brain. With regard to epilepsy, there are insurmountable objections to this theory; but the very existence of such a structure, in connection with the pia mater, increases the probability that frequent turgescence of this membrane is a physiological state. "There is no question," says Rokitansky, "that congestion of the pia mater is a very frequent occurrence." "Yet, if we except the *post-mortem* congestion of the pia mater covering the posterior lobes of the cerebrum, any considerable degree of congestion is far less commonly met with in the dead subject than is supposed; and there is, perhaps, no respect in which moderation in estimating appearances needs so much to be impressed upon the unpractised observer, as in regard to the quantity of blood contained in the vessels of the pia mater. As a general rule, a very moderate injection of these vessels is erroneously looked upon as congestion." "The terminations and consequences of these congestions vary, according to the frequency and duration of their cause. They consist of thickening and condensations (increase of volume) of the pia mater and arachnoid, of permanent infiltration of the former, and a varicose condition of its vessels. Such a state of the inner membrane is well marked

after the congestions which are produced by continued and forced exertion of the mind, or by repeated intoxication, especially by alcoholic drinks." (Op. cit. pp. 339 and 340.)

Thus, we learn from this great pathologist the frequency of congestions of the pia mater; their causation by two of the common causes of Insanity, mental overstrain and drunkenness; and lastly, the difficulty which exists in recognising, after death, the existence of a pathological degree of this frequent occurrence. The same difficulty exists in the tissue to which we have compared its functions, namely, the submucous vascular layer of the stomach. In both these instances, this difficulty of *post-mortem* recognition arises from the same cause. A moderate degree of congestion is in neither instance pathological. Congestion only becomes so when its degree or frequency tends to produce structural change. The last moments of life are commonly passed in a state adverse to the continuance of congestion, unless they are attended by such difficulty in the respiratory movements as to impede the return of the venous blood to the heart, and hence a state of congestion which may have existed in the pia mater, even up to a short time before death, may have left no traces discernible after that event.

The exudations of the pia mater in mental disease, are not of the organizable, fibro-albuminous kind. It is rare even to find them opaque, either from partially coagulated albumen or from fat. Even when the arachnoid is thickened and opaque from exudations of this kind, those of the pia mater are remarkably limpid and serous. Adherent false membranes are not found once in a hundred cases of persons dying insane; and even in these rare instances, their occurrence usually is traceable to a pre-existent inflammation, and is not to be considered as a condition proper to Insanity. According to Vogel, fibrinous exudations result mainly from the minute capillaries, whilst serous or hydropic effusions derive their source from the small veins. The plexus of vessels which forms the pia mater is venous in its anatomical character, and the serous nature of its ordinary exudates may fairly be thus accounted for.

Although fibro-albuminous exudates in the pia mater, and the false membranes and adhesions resulting therefrom, are so uncommon in Insanity, there is one form of adhesion of frequent occurrence in this membrane, namely, the slight but important

adhesion between it and the grey substance of the convolutions. The plexus of vessels more or less infiltrated with serous effusion, is sometimes very readily separable from the grey substance which it invests. But in many instances it is not so. What are called adhesions, more or less intimate and extended, are found to have formed, so that sometimes over the whole extent of the convolutions, sometimes only in isolated parts, the convolutions cannot be divested of their vascular envelope, without small portions of the grey substance remaining adherent to it. In these instances there is no appearance of fibro-albuminous exudation into the pia mater; but it is probable that the cells of the grey substance, and their connective tissue, may have received an addition of fibro-albumen from the minute arteries and arterial capillaries in connection with the pia mater; an addition which may prevent the small vessels from being withdrawn from the soft substance of the grey matter with the same facility as in the normal state. Something, also, may be attributed to an increased toughness in the coats of the minute blood-vessels preventing facile rupture.

Congestion of the pia mater, and consequent serous effusion into its meshes, is the constant result of atrophy of the brain. "When an empty space is formed within the skull by a reduction of the volume of the brain, it is filled up by an increase of the volume of the inner membranes of the brain, and especially by an extraordinary exhalation of serum into the tissue of the pia mater, the sac of the arachnoid, and the internal cavities of the brain, more particularly the lateral ventricles. These changes result from the congestion of the vessels which the vacuum produces." (Rokitansky, op. cit., p. 364.)

Thus arises the *Hyperæmia e vacuo*, the pathological condition of the very frequent cases of spurious apoplexy which occur among old and chronic lunatics—every attack of which renders the vessels of the pia mater more dilated and tortuous, and more disposed to the recurrence of the congestion. This may, and frequently does, concur with an anæmic as well as with an atrophic condition of the substance of the brain. In the healthy organ, congestion of the pia mater cannot occur without accompanying congestion of, at least, the grey matter of the convolutions; but, under the pathological conditions which attend atrophy of the organ, a sudden congestion of the loose and water-logged mem-

brane frequently occurs, without affecting the anæmic and atrophic brain otherwise than by adding a temporary impediment to its functions by the sudden pressure.

To recapitulate :—The pia mater, in rare instances, is found to be the seat of fibro-albuminous exudation, and consequent adhesion. It is the very frequent seat of congestion, which may or may not be obvious after death. Frequent congestions enlarge and render its vessels more tortuous. They also result in a thin hydropic effusion—more rarely in a turbid albuminous one. Not unfrequently the membrane contracts adhesions to the grey matter of the convolutions, but without visible exudation of albumino-fibrine or false membrane. In cases of acute Mania and Melancholia, thin extravasations of blood, not larger than a finger-nail, occur in its tissue. Diffuse inflammation of the pia mater, and tuberculous infiltration and deposit, are extremely rare among the insane.

The pathological conditions of the choroid plexus are as obscure as its physiological purpose. It is not found hypertrophied in epilepsy, which it would be were the theory true which attributes the production of that disease to its turgescence. It often contains cysts analogous to those observed in the Malpighian bodies in Bright's disease; but whether the frequency of these cysts is greater among the insane than the sane, there are no data to determine.

It is very remarkable to how great an extent the changes we have here described are confined to the vertical, parietal, and frontal regions, and how largely the base of the brain is exempt. Perhaps the gravitation of the organ has somewhat to do with this phenomenon, as it may also have to do with the deeper sulci of the bones at the base of the skull.

The Cerebral Substance.—The condition of the cerebral membranes, and indeed of all other parts, is, of course, in the pathology of Insanity, of secondary importance to the state of the substance of the brain itself. The condition of the cerebral substance is the prime question in the pathology of mental disease. Frequently this condition can only be judged of by the state of its blood-vessels, or can only be guessed at by that of its membranes, or some still more remote indication. Not unfrequently, in partial and sympathetic Insanity, it appears to be perfectly sound in structure, although the deductions of science assure us that

this soundness is in appearance only, and is solely attributable to the imperfection of our means of observing and investigating.

The bulk of the brain varies from a state of atrophy, in which it has been known to lose nearly a third of its volume, to one of hypertrophy, in which, but for the restraining pressure of the unyielding cerebral walls, there but is little doubt that it would be not less augmented.

Cerebral atrophy, as the most frequent, is the most important of all changes in chronic conditions of mental disease. We have already written so fully on this subject, that our limits only permit a few further remarks. It is almost always accompanied by œdema of the pia mater, more or less general, by contraction of the convolutions, and widened sulci, and diminished thickness of the grey cortex, by altered colour, and by change of consistence in the grey and white matter, frequently by dilatation of the lateral ventricles and in rare instances by a cribriform condition of the whole substance.

A considerable degree of cerebral atrophy is rarely unattended by changes in the colour and consistence of the brain substance, sufficiently obvious to the eye of the experienced observer. It is frequently both anæmic and discoloured; the grey substance contains less red and more brown; and its coloration, also, in depth of tint, varies greatly; sometimes its tint is deeper than is usual in health, but far more frequently it is paler, and occasionally it is little more than a darkish buff colour.

On this point Mr. Solly remarks, that having many opportunities of examining the brains of the insane at Hanwell, he made coloured drawings of the cortical substance of all patients indiscriminately; and he adds, "The general result of my observations was, that a pale condition of this ganglion was almost invariably found in patients who had sunk into a state of imbecility, and was generally associated with some serous effusion, and thickening of the arachnoid and pia mater." (Solly 'On the Brain,' p. 398.) The uniformity of colour of the grey matter, also, is lost. The grey layer of the convolutions consists of six planes, in which the white and grey substances alternately preponderate. M. Baillarger, in his memoir on this subject ('Mém. de l'Acad. de Méd.,' tome viii), states that it consists of six of these alternate layers. There can be no doubt that such layers exist; but the exact number of them is a question which has been

much debated. In the normal state, a triple division is very obvious to the naked eye in the posterior convolutions of the cerebrum; and in a state of atrophy it becomes still more obvious throughout all the convolutions where it was previously not observable. This appearance arises from diminution in the quantity of the pigment-coloured cells in the whole of the cineritious layer. This diminution in the bands where the white matter exists in largest quantity, renders the colour of the latter very apparent. According to the statement of M. Baillarger, the external layer of the convolutions is white, and not grey. It would, we think, be more correct to say that the external layer contains a less proportion of vesicular neurine to the tubular substance with which it is intermixed, than the layer next but one to the surface, and again, than the layer next but one to that. The consistence of the grey matter of the convolutions is very generally lessened when the organ is atrophied. Sometimes the superficial layer is obviously softened, but more frequently the grey layer immediately under it is the seat of the greatest amount of softening. We may hope that Gerlach's observations on what has been called the bacillar layer of the cortex of the cerebrum, will lead to an important increase of our knowledge of its pathological conditions.

The colour and consistence of the tubular neurine are often notably altered. Unlike the grey matter, its depth of colour is generally increased. From the clear white of health, almost imperceptibly tinged with pink, it assumes a dirty brownish hue—very faint, indeed, but quite unmistakable.

The consistency and density of the white substance vary greatly. In the *Atrophia cerebri senium*, the consistence of the white matter is generally a little increased. In the *Atrophia cerebri præcox*, the consistence is increased whenever the primary condition of disease has been hyperæmia verging on phlogosis, and tending to the addition of albumino-fibrine to the substance of the brain. This is particularly the case in the atrophy which attends the later stages of epilepsy—an atrophy which is preceded by a period of congestive hypertrophy, and meriting the name which has been applied to it, of concentric hypertrophy of the brain, if such a term applied to any organ is not somewhat absurd. In atrophy not consecutive upon a congestive condition of long standing, but either primary or secondary to a state of general

debility or dyscrasia, the consistence of the tubular neurine is diminished—sometimes to the extent of making it appear that the whole brain is infiltrated with serum. Rokitansky asserts that atrophy is accompanied by increased consistence and tenacity, or sclerosis, as it has been called. "The surface of a section of the hemisphere shrinks and becomes concave ; and here and there certain portions offer more resistance than others, and wrinkle and lie in folds." The whole substance also, in rare cases, becomes porous, like Gruyère cheese, or rather like the substantia perforata of the normal brain in appearance, the *état criblé* of French authors.

When induration exists, it is in greatest degree in the neighbourhood of the lateral ventricles. The latter are generally enlarged and distended, with a very limpid effusion ; and thus the bulk of cerebral substance is diminished, both from within and without. Sometimes the lateral ventricles are greatly contracted ; sometimes they are of normal size. Andral states, that unless each lateral ventricle contains more than an ounce of fluid, it cannot be reckoned abnormally large.

It is unnecessary to refer, in this place, to the shrunken and pinched appearance of the convolutions, and the widely opened sulci. In not very unfrequent instances, the remarkable appearance of circumscribed atrophy affecting three or four convolutions, generally about the vertex, is presented. In such instances, the loss of bulk is replaced by a partial œdema of the pia mater, presenting the appearance under the arachnoid of a gelatinous bag. This partial atrophy of the brain has not hitherto been connected with any peculiar loss of mental function calculated to add additional evidence to the arguments of phrenologists.

Atrophy of the brain rarely exists in any considerable degree, without a notable *diminution of the breadth of the cortical grey substance of the convolutions.* The normal breadth of this substance we have ascertained, by numerous measurements, to be eight hundredths of an inch. In atrophied brains it is reduced to seven, and frequently to six hundredths. The reader will find in the table at p. 520 careful measurements of the cortical grey substance in the various forms of mental disease. These measurements were made with that form of compass which is called a hair-divider, and the hundredths of an inch marked off on a scale, the eye being assisted by a simple lens. Dr. Major has used a

graduated tube for this purpose, which he calls a tephrylometer, but we are informed that this instrument cannot be used without pressure on entering, and tractive suction on removal from the brain substance, and we think our own simple mode of measurement the most convenient and accurate.

The usual condition of atrophic brains, with reference to the state of the blood-vessels, is a degree of anæmia; but sometimes, owing to the circumstances of death, this condition is replaced by one of congestion, and the dirty white of the tubular neurine becomes mottled with a faint violet discoloration. This is especially the case when death occurs soon after severe convulsive attacks, or during the course of congestive apoplexy.

Cerebellum.—It is a remarkable fact, first noticed by Cazauvielh, that atrophy of the brain is confined to the cerebrum. Even in extreme age, when the cerebrum is much wasted, the cerebellum retains its full size. Dr. B. Tuke, however, has met with three cases of atrophy of the cerebellum, and in all three there were no symptoms at all. ('Journal of Anatomy and Physiology,' vol. vii.)

Hypertrophy of the brain is an interesting but rare form of pathological change. But for the pressure exercised by the unyielding walls of the cranium, the brain would doubtless undergo enlargement with every considerable degree of congestion which it suffers. It would enlarge like a congested liver, until like the liver it took on its secondary change and contracted in the state of scleroma or the allied state of cirrhosis. As it is, congestion of the brain constitutes one form of hypertrophy, of common occurrence contrasted with the true hypertrophy of the cerebral substance, in which the brain is anæmic, the vessels being emptied by the ever-increasing pressure.

In the bodies of persons who have died during the early period of epileptic disease, and of some who have died in the first stages of Mania, the brain appears too large for its case; the convolutions are flattened; the sulci cease to exist as indentations between the convolutions; lines only can be perceived in which processes of the pia mater dip. The vessels of the pia mater itself are distended with blood; the grey matter is deepened in colour; the white matter pinkish, or mottled with pale violet; and the cut ends of the vessels in it effuse an abundant quantity of *puncta sanguinea*. This is false or congestive hypertrophy. We cannot concur with Griesinger in the opinion that general hypertrophy of

the brain has no connection whatever with mental affections, but, perhaps, he only meant to indicate that form in which it is an epiphenomenon on tumours, softening, and disease of the brain other than Insanity in any of its forms (op. cit., p. 425).

In true hypertrophy, the brain swells up when the cranium is removed, so that the latter cannot be replaced ; the convolutions are flattened, the sulci obliterated; the arachnoid is transparent, thin, and dry; the pia mater is exsanguine ; the grey substance very pale; the white substance pure white, with few traces of blood-vessels, dense and tenacious. As the change progresses, the mental functions, and especially the memory, become more and more feeble; but Dementia, to the extent which follows atrophy of the brain, rarely, if ever, supervenes. Epileptiform convulsions appear towards the close of the case, and usually supply the form of death. In a marked case which came under our own notice, epileptiform convulsions existed at intervals for more than six months before decease. The *post-mortem* examination displayed all the above appearances, with the addition of the remains of a sanguineous effusion, thin, old, and yellow, surrounding the crista galli of the ethmoid.

There have been many differences of opinion respecting the nature of this pathological change. Dr. Handfield Jones, in an excellen paper on "Fibroid and Allied Degenerations," in No. 27 of the 'Medico-Chirurgical Review,' maintains that it is not a true hypertrophy. "It can hardly be thought," he says, "that a true hypertrophy existed, otherwise surely there would have been some apparent superiority of intellect. The truth probably was, that there was just the ordinary amount of nervous matter, *plus* a certain quantity of interstitial exudation." Doubtless it is not a true hypertrophy in this strict sense of the term, *i. e.* the abnormal increase of normal structure; and although Rokitansky declares it to be "a genuine hypertrophy," he explains the meaning he attaches to this term; so that, according to its acceptance in this country, it would be excluded from the category. He says, "it consists as such (*i. e.* as a genuine hypertrophy), not in an increase in the number of the nerve tubes in the brain, from new ones being formed, nor in an increase in the dimensions of those which already exist, either as thickening of their sheaths, or as augmentation of their contents, by either of which the nerve-tubes would become more bulky. It is an excessive accumulation

of the intervening and connecting nucleated substance." He attributes its occurrence to an excessive development of the lymphatic system, although he admits that its immediate cause may be congestion.

Dr. Handfield Jones's test of a genuine hypertrophy appears, in this instance, fallacious, inasmuch as an increase of normal tissue may fail to confer increased power of function, if the new tissue is in a condition unfavorable to its activity—if, for example, it be subjected to pressure. Moreover, we have no knowledge leading to the belief that hypertrophy of the organic cells is inconsistent with a pathological condition, tending to interference with their function. An hypertrophied cell may be as much disabled as an atrophied cell. In the absence of microscopic proof, however, it appears to us far more probable that this particular kind of hypertrophy is seated in the parenchyma, being either hypertrophy of the *neuroglia*, or due to a slowly formed exudate of an albuminous or fibro-albuminous character, gradually pervading the whole of the cerebral substance.* Either of these changes from the normal state, originating in some obscure vice of nutrition, may go on increasing until death from convulsions takes place, and the peculiar characteristics of cerebral hypertrophy are found. More frequently, however, the process undergoes an arrest and an inversion. The hypertrophied tissue, or the exudate pressing upon the normal tissue, and upon the blood-vessels, impedes the nutrition; this arrests the further progress of the hypertrophy, and a reverse movement takes place, tending to cerebral atrophy with induration. Such, we believe, to be the true pathology of a large class of epileptic cases—namely, of those in which the nutritive powers are at first in excess, the muscular system highly

* The absence of microscopic proof no longer exists. In the 'Journal of Anatomy and Physiology,' vol. vii, is recorded "A Case of Hypertrophy of the Right Cerebral Hemisphere with Atrophy of the Left Side of the Body," by Dr. Batty Tuke. The brain was so firm, tough, and resilient, that no impression was made upon it by a column of water five feet in height. The characteristic histological appearance was a well-marked increase of *neuroglia* in the right parietal lobe, the nuclei much proliferated in plasm and on vessels. In the right occipital lobe, a section of which is represented by a woodcut, the *neuroglia* is greatly hypertrophied. Dr. Tuke regards this case as primarily due to acute hydrocephalus, resulting in atrophic hemiplegia. After the skull became ossified, the fluid was absorbed, and a compensatory substance was supplied by an increase of the neuroglia. This sclerosis of the packing substance, imparting its trophesial influence, resulted in arrest of development of the opposite side of the body. The patient was epileptic and imbecile.

developed, the functions vigorous, and the health robust, and in which there is an early tendency to maniacal excitement, gradually passing into the opposite one of Dementia. The cure of these cases is hopeless, but the relief afforded by early antiphlogistic treatment, moderate and prolonged, supports our view of their pathological character.

Inflammation, Congestion, and Anæmia of the Cerebral Substance.—Inflammation of the grey substance of the convolutions is, undoubtedly, an occasional cause of Insanity, although it cannot be admitted to be one of its conditions. According to the limitations of that most artificial of sciences, nosology, phrenitis is not Insanity, and does not belong to the speciality of the psychologists. The same may be said of cerebral hæmorrhage. The appearances and symptoms which primarily attend these forms of pathological change are, therefore, excluded from the present notice. But a brief reference cannot be avoided to the changes which they frequently undergo, attended by symptoms of undoubted mental disorder. One of the reliquiæ of inflammation of the grey substance of the convolutions is a chronic induration of the superficial layer; another is, that adhesion of this layer to the pia mater, which has been found by M. Parchappe so frequent in the insane; others are a softened condition of the middle layer of the grey substance; induration or atrophy of the whole of this substance; in some rare instances, entire loss of it by ulceration and absorption. When the functions of the grey substance have been deteriorated by these changes, the white substance of the brain wastes from disuse of function, as the optic nerve wastes in cerebral amaurosis, and thus atrophy of the whole cerebrum finally results.

Inflammation of the white substance of the brain is usually far more limited in extent than that of the grey substance. It is also a more chronic affection—destroying life, when fatal, by convulsions, low fever, pulmonary congestions, and gangrenous sores. Although, during its progress, the mind is always more or less disturbed, and actual delirium is frequent, yet it is a less frequent cause of Insanity in any of the acknowledged forms of the latter than inflammation of the grey substance. Parts of the brain which do not participate in the inflammatory action become œdematous, and others anæmic from the pressure of those parts whose bulk is augmented. This disturbance of pressure and of

the blood-supply consequent thereupon, is necessarily accompanied by disturbance of the functions of the organ, often to a greater extent than the *post-mortem* appearances explain, since the pressure of the different parts equalises itself after the process of inflammation has been arrested by death.

Cerebral Hæmorrhage.—The relation which this accident bears to Insanity is of the same nature, but less intimate than that which inflammation holds. Numerous instances of cerebral hæmorrhage occur without giving rise to any mental disorder; but on the other hand, the processes of irritation and exudation, set up by a clot in the brain, not unfrequently do give rise to Mania, rapidly running into Dementia. In such cases the brain is found to be atrophied, and to contain clots or cysts, or cicatrices in the various stages of reparative or degenerative change.

When cerebral hæmorrhage is subsequent to atrophy, a remarkable modification of the usual symptoms of apoplexy may result. An enormous amount of blood may be slowly effused around the cerebral hemispheres, not only without the immediately fatal result which would occur if the hæmorrhage took place on a brain not atrophied, but without giving rise to urgent symptoms of cerebral pressure. Instead of exerting a fatal pressure upon the substance of the brain, the effused blood only displaces an equivalent quantity of serous fluid which finds its way from the cavity of the arachnoid and the meshes of the pia mater into the spinal bag. In the 29th vol. of the 'Medico-Chirurgical Review,' we have given the details of a case remarkably illustrating this statement. In this case a demented patient had an attack of apoplexy on the 29th of September, 1853, and he lived until 7th of July, 1854. The *post-mortem* examination showed the remains of a sanguineous effusion, fibrinous and tough, which completely enveloped the cerebrum. It was situated in the cavity of the arachnoid, and over the vertex and sides of the brain was half an inch thick, and was the colour of venous blood. In the petrous fossa it was also thick, but had become yellow. It did not extend over the cerebellum, but the effusion from which it was formed, had found its way into the lateral ventricles, as those contained masses of dark-red fibrine; a thin layer, also, extended two inches down the spinal canal. Between the visceral arachnoid and the brain there was a large amount of serous effusion. The cranial cavity required 52½ ounces of water to fill it. The brain displaced

only 37½ oz., so that the atrophy of the organ was equivalent to 15 oz., or nearly one third of its normal bulk. Subsequent to the occurrence of the apoplexy, the patient lived a kind of vegetative existence, with the smallest amount of mental and animal function we ever saw in a living human being during so long a time. Probably a sanguineous clot of 15 oz. is impossible between a healthy brain and its case, but if it were possible it would be utterly incompatible with the survival of life beyond a very brief period.

The small extravasations of blood often found on the surface of the convolutions in many cases of acute Mania and Melancholia, result from congestion of the pia mater. In some instances a dyscrasial condition of the blood may aid in the production of these effusions, as it does in the extravasations, which in the insane, take place under the conjunctiva and between the cartilages of the ear.

Congestion is one of the most important conditions of the brain-substance, but of its appearance little can be written. Congestion of the grey matter is indicated by various shades of red, brown, and grey, of which the practised eye becomes cognisant. In recent and acute Mania a deeper red tinge prevails. In cases of longer standing, and where atrophy of the organ also exists, the deeper tinge is of a brown or grey cast. The same distinction is true in congested states of the whole substance. In acute Mania and Melancholia the whole surface of the centrum ovale, in some instances, presents a uniform pinkish hue; in others this hue is mottled with the normal white. In other instances, not in any way distinguishable from the last by the previous symptoms, the cut surface of the centrum ovale is mottled with a light violet hue. This hue is never uniform, except after death from long-continued epileptic convulsions. In acute Mania and Melancholia it is mottled either with white or with pinkish white. The above appearances of cerebral congestion are commonly accompanied by a great abundance of bloody points due to blood issuing from the cut orifices of the small vessels. This appearance is not constant, even in brains obviously discoloured by congestion. Its absence may be due to the loss of contractility in the small vessels, or to the blood they contain not being fluid.

Anæmia of the brain-substance, made evident by paleness, both of the grey and white matter, and by the small number of blood-vessels which are visible, is observed in a few cases of acute Mania;

sometimes, also, but more rarely, in Melancholia. In many chronic cases, with cerebral atrophy, anæmia is the ordinary condition of the brain substance, although it frequently alternates with transient states of severe congestion. The state of the pulse, and the aspect of the skin of the face, the conjunctiva, and the lips, may indicate whether congestion or anæmia is present in the brain; but these conditions cannot always be diagnosed from the mental symptoms. Andral has well pointed out this common nature of functional disturbance arising from diverse causes:—"It is a law in pathology, that in every organ, the diminution of the quantity of blood which normally it should contain, produces functional disturbances, as well as the presence of an excessive quantity of blood. We have found, more than once, the brain and its membranes completely bloodless in children who died in the midst of convulsions. We have also seen the state of coma, in which many of their diseases terminate, coincide with remarkable paleness of the nervous centres. Sometimes, also, in adults, we have been struck with the complete absence of colour in the brain, perceptible principally in the grey substance, in cases wherein during life cerebral phenomena had taken place—such as delirium, convulsive movements, coma. Do not animals, also, who are bled to death, exhibit symptoms of this description?" "But when we have referred the symptoms to hyperæmia in one case, and to anæmia in another, are we come to the bottom of the subject? By no means; for this hyperæmia and this anæmia are themselves mere effects which—a thing very remarkable—the same influence can very often produce. Thus, by an emotion of the mind, the skin of the face becomes red in one person, and pale in another."—('Clinique Médicale.')

This enlightened view must be applied to explain the uniformity of symptoms which attend many other deviations from the normal condition of the brain-substance. Thus, induration and softening are both found in atrophic brains, both in chronic Mania and Dementia. Either of them may be attended by a congested or an anæmic condition, anæmia being the usual condition, and hyperæmia a frequent but transient state.

With regard to induration of the brain-substance in the bodies of persons dying insane, we have never met with that "leather-like and fibro-cartilaginous hardness and resistance" to which sclerosis of the brain is said to attain. The slighter degrees

of induration dependent upon diminution of water in the brain, and perhaps also upon some amount of hypertrophy of the neuroglia, or of albuminous exudation, are common in cerebral atrophy. The slighter degrees of induration may be general, but the higher degrees must be partial, since the organ could not perform its functions were it universally changed into a tough substance, like leather or caoutchouc. Callous cicatrices, marking the locality of old apoplectic rents, have offered the only examples of leather-like induration which we have met with among the insane.

Œdema of the brain, a state in which the tissue of the organ is permeated by water or serosity, is a not unfrequent condition in persons who, with atrophy of the brain, have had great general debility or cachexia of the body. The brain appears unusually moist, and its cut surface is of a brilliant white. In extreme instances, this condition is exaggerated until parts of the organ are almost broken down into a pulp, and the appearance of ramollissement is produced. It is not, however, to be considered one form of the latter affection.

The two forms of ramollissement are not found frequently in the brains of persons dying insane. The same may be said of the cellular infiltration described by M. Durand Fardel. In four hundred autopsies of the insane, we have only met with it in two instances. In both instances it occurred in aged persons suffering from chronic Mania, in whom it gave rise to a series of convulsive attacks, which terminated in death. The brains of the insane appear to be certainly not more liable than those of others to various incidental affections. Thus, in four hundred autopsies of the insane, we have only once met with a hydatid, only once with tubercular deposit in the substance and meninges, only once with a fibro-cellular tumour, and not once with malignant disease. The arteries at the base do not appear to be more frequently or extensively affected with atheromatous change, than those of sane persons of the same age. And in the bodies of the insane we have never yet met with that cretaceous deposit in the coats of the small arteries, which makes them feel like pieces of fine wire imbedded in the brain-substance.

The Specific Gravity of Cerebral Substance in Insanity we were the first to investigate in this country. Other physicians have subsequently pursued the inquiry, especially Dr. Sankey and

Dr. Skae. Dr. Sankey in his lectures, published in 1866, has fallen into the unaccountable inaccuracy of stating that "Dr. Bucknill did not examine the grey and white matter separately in his cases, which both Dr. Skae and I have always done." A reference to the table at page 520, which we first published in the 'Medico-Chirurgical Review' in 1855, will show that we did examine the grey and the white matter separately, and also the cerebellum.

We may state briefly, that in the thirty cases first tabulated and published by us in the 'Lancet,' Dec. 25th, 1852, the average specific gravity of the cerebrum was 1040, the range being from 1026 to 1046; while the average specific gravity of the cerebellum was 1043, the range being from 1039 to 1046. It was also observed that the specific gravity was higher "when life had terminated in coma or asphyxia, than when it had ended in syncope or asthenia." In our annual Report of the Devon Asylum, for 1851, we published some investigations on the same subject, from which it resulted that the average specific gravity of the cerebrum was 1039½, and that of the cerebellum, 1042. In the sixty-three cases published and tabulated in the 'Medico-Chirurgical Review,' Jan., 1855, and which we now republish, the average of the white substance of the cerebrum was 1039, and that of the grey substance, 1037; that of the cerebellum, grey and white substance conjoined, 1040. The lowest specific gravity of white cerebral substance was 1033, the highest was 1046; of the grey substance the highest was 1048, the lowest 1030; of the cerebellum the highest was 1040, the lowest 1030. The lowest specific gravities were generally connected with a watery or œdematous condition of the brain, which led us to adopt the term "relative atrophy," in contradistinction to that of "positive atrophy," where the organ has actually shrunk. The two conditions, however, may coexist, as we remarked in the 'Lancet:'—"The additional fluid which makes the brain light, goes to make up for interstitial atrophy, but it does not wholly make up for it, and the brain shrinks from its bone case." "A low specific gravity does not necessarily indicate a diminution of cohesion, or the commencement of ramollissement, although it points in that direction. A brain may acquire a low specific gravity from an increased quantity of fat globules in its tissue, while retaining its normal consistence. We believe, however, that fat tends to accumulate only in softened brain, so that possibly this source of error may not exist; but it is, nevertheless

a point of the utmost importance to determine how much of diminished specific gravity in brain-tissue is to be attributed to the effusion of serum, and how much to the accumulation of fatty matter. This question may be resolved by treating the substance with ether, and by evaporation. We are convinced that in circumscribed softening of the brain (true ramollissement) the low specific gravity is, to a great extent, owing to the amount of fatty matter deposited. In the last case of the table given, the specific gravity of the cerebrum, generally, was 1041; while that of the softened part was 1035; and, on examination, this pultaceous substance was found pervaded with an immense quantity of fatty matter." The conditions which favour a high specific gravity are congestion and induration—those which favour a low one are œdema and fatty degeneration. A watery or œdematous condition of the brain is frequently met with in Dementia and chronic Insanity generally, and in such cases the specific gravity is low. It is low in the softened condition of circumscribed portions, which the microscope shows to be one form of fatty degeneration; and in other cases in which it is low, it is probable that there is much diffused but unrecognisable fat; finely granular amorphous fat diffused in the stroma, or contained in the cells and tubes, it being highly probable that morbid degeneration of brain-substance, like that of muscular tissue, takes place by the running together of the organic elements into forms of hydro-carbon.*

The pectoral and abdominal viscera present, in the insane, some pathological peculiarities which require notice.

Disease of the Heart is common among the insane, although Griesinger affirms that "the newest and most reliable statistics show only a very average frequency." Obstructive valvular disease is often seen in connection with simple and with hypochondriacal Melancholia. Dilatation of the heart, with great irritability of the organ, and attacks of palpitation, are frequent in chronic Mania; and we have observed, that this condition of the heart appears to impress its character of excessive excitability upon the mental disease, and that those who thus suffer are susceptible, irritable, impulsive, and subject to gusts of passionate excitement, but that they are neither malevolent nor refractory. In Dementia, the heart is liable to undergo fatty degeneration; and in three instances of

* On this subject see Dr. Bastian's article in the 'Journal of Mental Science, No. 56, Jan., 1866.

chronic Mania with Dementia we have satisfied ourselves by microscopic examination that the death was occasioned by this change.

Disease of the Lungs occurs in the insane in all its varieties. It is frequently latent from the absence of cough, and from the patient's absorption of mind preventing complaint. The absence of cough in serious pulmonary disease is very peculiar. In Dementia it arises partly from torpor of the excito-motory system, partly from loss of attention—from the same cause, in fact, as that which gives rise to the frequent dirty habits of the insane. In Mania it arises from the attention being intensely preoccupied by the vivid ideas and delusions which absorb the mind. We have seen many patients in advanced stages of phthisis, who were never heard to cough so long as they were under the influence of maniacal excitement. When this underwent a temporary diminution, they were greatly troubled with cough, which was again arrested by the recurrence of excitement. The continuance of colliquative diarrhœa and perspiration, and of emaciation, proved that there was no halt in the progress of the disease, as the absence of cough has led authors erroneously to suppose. The torpor of the nervous system in Dementia leads to another peculiarity in pulmonary and in some other bodily diseases of the insane, namely, the absence of irritative or symptomatic fever; and hence it happens, that in a demented person whose strength is but little impaired, and whose constitution is tolerably good, diseases will obtain a high degree of development, with symptoms so few or obscure as to be incredible to the general physician. It is on this account that the numerous sloughing sores to which general paralytics are liable, produce so little suffering, or constitutional irritation. We have known the stomach disorganised by cancer, without the patient complaining of any pain, until a few days before death, when perforation took place. The only case of true carditis we ever saw, occurred in an insane person who complained of no pain, and in whose heart, disease was only suspected twenty-four hours before death, in consequence of the failure of the pulse. This peculiarity in the intercurrent diseases of the insane should teach the physician to observe with watchful anxiety every physical indication from which he can derive knowledge of the attack of disease, before it is so advanced as to be beyond control. Pulmonary Gangrene is more common among the insane than the sane; but not to the

same extent here as at Vienna, where it appears to contribute largely to asylum mortality.

The frequency of Phthisis and of tubercular disease generally in Insanity has attracted the attention of many observers. Griesinger having given the proportion of deaths from phthisis in various asylums, observes that in certain asylums, in the Bicêtre, for example, it rarely is remarked, and that the general statistics made by Hagen, show that in asylums generally a little more than one fourth of the deaths are due to phthisis, and that this proportion is almost the same as for the general population above fourteen years of age. Griesinger observes that this may be true of the general population of large towns, but not for the rural population, and that we must therefore assume that phthisis is more frequent amongst those who inhabit large institutions (not asylums merely) than amongst the general population.

We had ourselves arrived at and had published similar conclusions thirteen years ago. We had been impressed by the increasing number of phthisical patients in the Devon County Asylum, and in our annual Report on that institution for the year 1860, we observed—

"One form of disease, from which several patients have died, suggests the anxious inquiry whether by any sanitary precautions it might have been averted, namely, that of pulmonary consumption. Four patients who have died were admitted with this disease in an advanced state, but in nine others the disease was undoubtedly developed during the residence of the patients in the Asylum, and the apprehension has been impressed upon me, that the disease may have been developed by the overcrowded state of the dormitories. Phthisis is exactly the disease which would be developed by the bad influence of deteriorated air, breathed habitually at night."

In our Report for the following year we further observed—

"The number of patients who die of phthisis is always a source of peculiar anxiety, inasmuch as the development of this disease may be regarded as a test of the sanitary conditions of an institution. Some of the patients who are carried off by it are indeed admitted with the disease already developed, and sometimes far advanced; others are admitted with the seeds of the disease in the constitution, which the progress of time would under any circumstances bring to maturity. But, in a certain number of cases, patients long

resident in an asylum pass from a state of good bodily health into one of tubercular degeneration from influences which they experience, but from which they ought to be guarded during the time that they are emphatically placed under medical care and treatment. Of these influences the bad air of over-crowded dormitories is unquestionably the most potent, and although it is one from which the poor do not escape in their own close and narrow sleeping rooms, it is yet an anti-hygienic condition to which the patients in an hospital ought never to be exposed. An over-crowded condition of an asylum, which is an hospital for the insane, is the worst possible condition in which it can be placed both for the physical and moral welfare of its inmates. But, in addition to this cause of consumption acting directly upon the body, there is one which may act upon it through the mind, namely—the influence of a monotonous and cheerless existence, which a long continued residence within the walls of an asylum is apt to become to patients of a certain mental constitution; not only therefore are efforts made to relieve the monotomy of a forced detention for the sake of those patients whose malady admits the reception of curative influences, but also for the sake of the hopelessly insane, ought proper efforts to be made to stimulate the flagging interest, and to give colour to a dreary life."

Since the date at which the above remarks were made and published, we have enjoyed large opportunities for observing lunatics who have for lengthened periods been under treatment in private residences, living in their own homes, or as single patients in the private houses of others, and the result of our observations has been fully to confirm our opinion that under such circumstances the insane are not more liable to phthisis and other tubercular affections than other people, and that phthisis which forms so large a proportion of the mortality of asylums for the insane, is the produce of the institutions and not of the cerebro-mental disease.

Gangrene is another disease of the lungs which is a far more frequent cause of death in lunatics residing in asylums than in the general population. Guislain first called attention to the liability of the insane to gangrene of the lungs in his Memoir published in 1836. He thought it generally due to the poverty of blood in patients who refused food, but although this is a frequent cause it is certainly not the only one. Sometimes it arises, as Griesinger has pointed

out, from general septic infection, originating, for example, from a bed-sore. In the six years' averages of the Prague Asylum 7·4 per cent of the deaths arose from pulmonary gangrene, while in the autopsies, in the Pathological Institute, of persons not insane the average was only 1·6 per cent. Without having any decided pathogenetic value in connection with mental disease, it would appear probable that gangrene of the lung is far more dependent upon inevitable circumstances of nutrition in which the insane are frequently placed than phthisis. Bronchitis and pneumonia are also frequent and fatal intercurrent disorders; and all of these lung diseases are exceedingly apt to be developed to an intractable degree in the insane before their existence is discovered. Mental excitement or mental debility disinclines or disqualifies the patient from complaining of pain or distress, and the nervous system has often been so exhausted of irritability that there is no cough, and but little dyspnœa, long after a period of the disease when very pronounced symptoms would have been developed in an ordinary patient.

Diseases of the Stomach and Intestines bear to Insanity a relation of the highest importance. In acute Melancholia, attended by refusal of food, the mucous membrane of the stomach is frequently found to be inflamed and softened, or ulcerated, and it often requires all the skill of the most experienced physician to determine whether an inflammatory condition of the stomach is the cause or the result of the abstinence. Softening of the coats of the stomach is sometimes an effect or a concomitant of advanced cerebral degeneration. Whether the different forms of stomach-disease classed under the term dyspepsia, are efficient causes in the production of Insanity, by impeding the due nutrition of the body in general, and of the brain in particular, there are as yet no reliable data to determine. The probability is in the affirmative. This, however, is certain, that dyspepsia is common among the insane, and that its removal by therapeutic and dietetic agencies is an important and efficient means of promoting the cure of mental disease. There is nothing remarkable among the insane in the pathology of the small intestines; but the large gut suffers in chronic Insanity frequent and extraordinary displacements, which we are quite at a loss to explain. The most common of these displacements is that of the transverse arch of the colon to the lower part of the abdomen, from whence again it ascends

to take its proper position as the descending portion. But the most extraordinary anomaly we ever met with, was the formation of a cul de sac rising from the middle part of the rectum, and ascending in front of the other intestines until it reached the ensiform cartilage, the cul de sac being nearly two feet in length. Its walls were thicker than those of the colon, and it contained all the intestinal coats. The patient in whom it occurred had ascites, and preparations were made for tapping; but percussion and palpation revealed the existence of something strange, and the operation was not performed. Had it been performed in the usual manner, the trocar would have passed into the rectum. Our friend Dr. Parsey, of the Warwickshire County Asylum, assisted us in this case, and made the *post-mortem* examination.

Many instances are on record of foreign substances found in the stomach and intestines. Once we found the stomach of an idiot crammed full of cocoa nut fibre, which had evidently been there some time. Ulceration and perforation of the coats of the stomach were rapidly fatal, but it was remarkable that the patient had no symptoms to call attention to his state until the last fatal complication occurred. Dysentery is apt to occur in asylums for the insane where the food is too liquid or insufficient, or where cleanliness is not thoroughly attended to; and a considerable number of chronic lunatics, and especially of paralytics, die of common but obstinate diarrhœa.

The Liver is not more frequently congested, or otherwise diseased, in the bodies of the insane than in others. The old Greek theory, that madness depends upon black bile, has no foundation in pathological fact. The only noteworthy peculiarity in the liver which we have observed, has been an apparent loss of structure, occurring in Melancholia and Dementia of very long standing, and in which great emaciation and prostration of vital power have long preceded death. In seven instances of this kind, we have found the liver shrunk and flabby, and its structure converted into an appearance closely resembling that of the healthy spleen. Dr. Budd describes an analogous change occurring in persons not insane, but with acute and recognisable symptoms.

The Spleen is usually small in chronic Insanity.

The Kidneys are remarkably free from disease in all the forms of Insanity, and the changes which give rise to albuminous urine are especially rare in them. We have only met with three instances

of decided Bright's disease among the insane; and upon inquiry in other asylums, we have found that the experience of others has been of a similar nature. Prior to observation, we should have expected Bright's disease and Insanity to have been frequently concomitant, on account of the common influence of intemperance in the production of the two disorders; or even that the former might be the occasion of Insanity, through the influence of its accompanying anæmia, and the toxic action of unsecreted urea upon the brain. Griesinger remarks that "Bright's disease is exceedingly rare amongst the insane as a primary affection, but the slighter forms which accompany the various marasmatic states are naturally common." Dr. Howden in his careful analysis of the Montrose Asylum autopsies, which generally agree with our own observations, has met with a much larger proportion of kidney disease. In 235 *post-mortem* examinations, he found fatty degeneration of the kidneys in 55 cases, and cysts of the kidney in 31, and during three years twelve patients were admitted into his asylum with albuminuria. In connection with this peculiarity it would be interesting to know the habits of the sane population of Montrose, the prevalence of Bright's disease among them and the causes of Insanity.

Renal and vesical calculi are equally rare in the insane. We have not once met with either, and only once with prostatic calculi. In this case the bladder and kidneys had become diseased from irritation communicated from the diseased prostate.

The Reproductive Organs are frequently the seat of disease, or abnormal function. Among male idiots and imbeciles, instances of deficient or excessive development of these organs are common; and the female population of every large asylum contains several instances of that masculine development of frame and constitution which indicates an abnormal formation of the sexual organs. There can be little doubt from the number of such instances, that the androgynous character is often accompanied by mental imbecility. Is it not always so to some extent, and is not this a cogent reason why the women who have invaded the sphere of man's work and duty have as a rule proved such miserable failures? The women of highest mental capacity have generally been remarkable for the strong development of the characteristics of their own sex.

Amenorrhœa is a frequent cause or consequence of, or concurrent phenomenon with, mental disease; and its removal often

leads to recovery of sanity. Extreme congestion of the ovaries and uterus, with false *corpora lutea* in the former, we have found in two instances of young women who died during the excitement of acute Nymphomania. Ovarian tumours are not uncommon; and at the time we write two insane patients are under our care, suffering from ovarian dropsy. One has been tapped several times, to ward off the imminent danger of death from the upward pressure of the fluid on the stomach and lungs. The other, an epileptic, with the assistance of Dr. Parsey, we tapped for the same reason, nine years ago, drawing off five gallons of porter-coloured fluid; and, strange to say, the cyst has only refilled to a slight extent.

Bed-sores or Asthenic Gangrene is a most serious intercurrent complication, happily, far less frequent now than it formerly was, before the management of the advanced stages of General Paralysis was so well understood as it has now become. An article on this subject by us, will be found in the fourth number of the 'Journal of Mental Science,' then called the 'Asylum Journal' in which this complication of Paralysis is referred to defect of nervous influence: —"It depends upon the cessation of nutrition, and the consequent death of the tissues and the blood contained in them from the abstraction of nervous force, and resembles the destruction of the tissues of the eye and the ulceration of the cornea arising from destruction of the trunk of the trigeminal nerve, and gangrene after fractured spine and in continued fever." In the worst cases, the gangrene of Paralysis does not confine itself to the coverings of the sacrum, the trochanters, and other bony prominences. It sometimes attacks those parts where the fleshy cushion is the thickest, as the gluteal and lumbar regions. These early and severe cases bear a strong resemblance in the appearance of the parts to traumatic gangrene, and mortifications of the moist kind. The skin becomes dusky red, then brownish and mottled, and eventually black. Bullæ sometimes form on the fingers and feet and the parts not subjected to pressure. In cases of rapid nervous degradation the decomposition of the body commences before death. The slightest pressure produces sloughing, the weight of one leg crossed over the other in bed, or the weight of the hand and forearm lying upon the abdomen. In two instances we have seen the cuticle peel from the whole body in the moist state observed in a rapidly decomposing corpse. Final eremacausis had become active while the vital functions were

still languidly performed. In more frequent cases where the nervous power has deteriorated more gradually, paralytic sloughing is of the dry type and rather resembles senile than traumatic gangrene. A portion of skin from two or three to six or eight superficial inches becomes reddish, mottled brown, and then black. After a time a narrow line of demarcation is formed, and a thin dry slough is separated. Very often this form of gangrene does not penetrate through the true skin; after separation of the slough healthy granulations form, and the sore frequently heals in a short time. The healing process in such cases of General Paralysis is not uncommonly observed to be remarkably rapid. Scarifications for erysipelas and other incisions will heal in such patients by adhesion, and even while new sloughs are forming, old sores will granulate and heal with surprising rapidity. We cannot doubt that these affections are analogous to the mortifications which take place in the lower extremities of persons who have suffered mechanical injuries of the spine. They are pathogenetic, forcibly pointing to the implication of the spinal cord in the disease in which they so frequently occur. In his lecture on mortification, Sir James Paget observes that a "defective nervous force may be counted among the many conditions favorable to senile gangrene, and so, yet more evidently, the sloughing of compressed parts is peculiarly rapid and severe, when those parts are deprived of nervous force, by injury of the spinal cord or otherwise" (p. 463). Sir B. Brodie also refers to these phenomena:—"I have known mortification in the ankles begin within twenty-four hours after injury of the spine, and a remarkable circumstance it seems that injury of the spinal cord should thus lessen the vital powers so as to make the patient liable to mortification, when we consider how many circumstances there are, which would lead us to doubt whether the nerves have any influence over the capillary circulation." ('Lectures on Surgical Pathology,' p. 308.)

The Humoral Pathology of Insanity.—The qualitative analysis of the blood of the insane has been made the subject of investigation by some German and French physicians. Although the somewhat difficult manipulations needful to obtain accurate and trustworthy results in an investigation of this kind, may be a severe test of the chemical abilities of alienists, we must admit that the uniformity of the gross result obtained by several independent inquirers, is sufficient to justify the important conclusion, that

the condition of the blood of the insane is opposed in character to that which is found to obtain in inflammatory diseases, and that it approximates to that found in non-inflammatory neuroses, and in febrile affections. Hittorf, of the Siegburg Asylum, analysed the blood of seven patients suffering from acute Mania; the results he obtained were, that in six out of the seven cases, the fibrine was below 2·5, the percentage of fibrine given by Becquerel and Rodier as the amount of this substance in healthy blood; that, in the same number of cases, there was a diminution of the globules; and, in five out of the seven cases, there was an increase of water. In Hittorf's analysis of healthy blood, however, the amount of fibrine is marked as low as 1·4. This disagreement with the result obtained by physiological chemists of reputation, is sufficient to detract from the value of his conclusions.

Erlenmayer has analysed the blood of patients suffering from various forms of mental disease. The conclusions he arrives at are, that the venous crasis, *i. e.* the increase of globules, is very rare among the insane, and principally occurs in idiocy and delirium tremens; and that the fibrinous crasis, *i. e.* increase of fibrine, is equally rare in cases of Insanity free from complications which would tend to modify the proportions of this constituent.

M. Michea, who has investigated the condition of the blood in General Paralysis, found that, in the majority of cases, there was an increase in the number of globules; in the majority, also, the quantity of fibrine was normal, in some it was diminished. The inorganic matter of the serum representing the albuminous constituent was diminished in little less than one third of the cases; from which he infers, that "the spontaneous diminution and the insufficient formation of the albumen of the blood, are the immediate causes of a certain number of the cerebral effusions which occur in the paralytic insane."

The analysis which Becquerel and Rodier obtained of blood in acute inflammations ('Path. Chem.,' p. 105) shows a proportion of fibrine of 5·8 per cent., the normal standard being 2·5; a decrease of globules from the normal standard of 135 to 123·3; a decrease in the albumen of the serum, and also the alkaline salts; and an increase of fatty matters. In encephalitis, Poggeolli and Marchal found the fibrine increased to 6·08, and the globules decreased to 106·05, affording a remarkable contrast to the pro-

portion of these constituents found by Hittorf in acute Mania; the highest amount of fibrine found by the latter being 2·03, and the lowest amount of globules being 109·191.

The following table shows the proportion of fibrine and of blood-globules in six cases of Mania during the period of the accession and that of convalescence, which were reported upon by the late Sir Charles Hood, to the Medical and Chirurgical Society, May 8th, 1860. The first three cases were acute, and the last three recurrent Mania. The analyses were made by Dr. Marcet. They all indicate a marked deficiency of fibrine during the period of maniacal excitement, and a correction of this deficiency during convalescence.

Number.	Condition of Blood during attack.	Condition of Blood on recovery from attack.
1.	Fibrine, 1·74. Blood-globules, 149·74.	Fibrine, 2·20. Blood-globules, 110·07.
2.	Fibrine, 1·55. Blood-globules, 125·48.	Fibrine, 2·75. Blood-globules, 140·61.
3.	Fibrine, 1·67. Blood-globules, 104·68.	Fibrine, 1·75. Blood-globules, 109·32.
4.	Fibrine, 1·58. Blood-globules, 121·77.	Fibrine, 2·88. Blood-globules, 126·01.
5.	Fibrine, 0·06. Blood-globules, 123·81.	Fibrine, 2·46. Blood-globules, 139·05.
6.	Fibrine, 1·96. Blood-globules, 135·56.	Fibrine, 2·97. Blood-globules, 121·65.

The Urine in Insanity has been carefully investigated by Dr. Sutherland, to whose papers on this subject in the 'Medico-Chirurgical Transactions' of 1844 and 1855 we must refer our readers. A comparison of the results obtained by him, with those of Dr. Bence Jones, in his inquiry respecting the proportion of phosphates in the urine of phrenitis, delirium tremens, and general paralysis, is highly instructive.

In four out of five cases of acute Mania, Dr. Sutherland found the proportion of phosphates above the mean quantity present in health; in the fifth case it was nearly of the healthy standard. In one case it was as high as 9·37, being nearly equal to that

found by Dr. Bence Jones in delirium from fracture of the skull. Dr. Sutherland believed, however, that this excessive elimination of the phosphates is rather a measure of the consumption of nerve-force than of inflammatory action. The results of treatment, of blood analysis, and of *post-mortem* investigations, proved to him that the condition of the brain in Mania is not inflammatory.

In acute Dementia the amount of the phosphates was remarkably deficient. It was lowest when the mental faculties were most feeble. In one case the proportion was 2·49, when the powers of the mind were in abeyance; when they again began to be exercised, the proportion increased to 5·1. In another case, when first examined, the proportion was 5·23; but as the disease advanced, and when the patient was unable to comprehend what was said to her, the phosphates fell to 2·37.

In General Paralysis there was great deficiency of the phosphates, these falling, as the disease advanced, from 4·42 to 1·57 In chronic Mania and chronic Dementia the amount of phosphates was below the average in every case but one, a patient in whom the powers of the mind were little impaired. Dr. Sutherland thought that these results correspond in a very interesting manner with the analyses of the brain and of the blood in mental diseases. The tissue from which the phosphates are eliminated is the albuminous; and according to L'Héritier, the brain of infancy and old age, compared with that of the adult presents a minus quantity of albumen, fat, and phosphorus; while according to Couerbe, there is a plus quantity of phosphorus in the brain of acute Mania.

In the reaction of the urine, the observations of Dr. Sutherland are opposed to those of Erlenmayer, who in his thesis 'De Urina Maniacorum,' states that the urine is generally alkaline in recent cases of Mania. Dr. Sutherland found that, in 125 cases of recent Mania, admitted during two years at St. Luke's, the urine was acid 111 times, alkaline 13 times, neutral 1; and that, in 100 cases of chronic Mania and Dementia, it was acid 61 times, neutral 6, and alkaline 33 times; in 25 cases of paralysis of the insane it was acid in 12, neutral in 1, alkaline in 12.

The Chemical Pathology of the Brain has received little attention in this country. A careful paper on the subject by Dr. Adam

Addison will be found in No. 58 of the 'Journal of Mental Science.' Dr. Addison condenses the observations of Lassaigne, Von Bibra, Schlossberger and others, and after detailing his own experiments on twelve insane persons he deduces the following results:

"1. A confirmation of the assertion that the different anatomical parts of one and the same brain present great differences in their quantities of water and fat, with the addition that these differences appear to be greater when complicated by Insanity.

"2. A confirmation of the fact that the grey substance is far poorer in fat than the white.

"3. A confirmation of the law that the quantity of matters soluble in ether stands in an inverse relation to the quantity of water.

"4. That in the greater number of the foregoing cases, the results as to the quantities of water were slightly higher than those of other experimenters on sane brains.

"5. That the quantities of fat were generally smaller, and that in two cases of Idiocy—one of Dementia, and one of chronic Melancholia—they were below the quantity found in the new-born child, and in two cases not greater than the amount found in embryonal conditions of an early stage.

"6. That the quantities of phosphorus did not have a parallel connection with the degree of intelligence.

"7. That in three cases of hemiplegia the average quantity of fat in the corpus striatum, optic thalamus, and grey substance of the hemisphere opposite the paralysis, was less than the average quantity in the same parts on the other side.

"8. That in a case of cancer cerebri the cancerous mass contained less fat and more albuminates than the unaltered cerebral substance."

The Pathology of General Paralysis.—This interesting, but hopeless form of disease, may be said to have been unknown until it was fully described in the admirable 'Mémoire' published by Calmeil in 1826. Haslam, it is true, in his 'Observations on Madness' (2nd edit., 1809, p. 259), refers to its symptoms in a manner which can leave no doubt that their peculiarity had engaged his attention; but no further notice was taken of it until Bayle's thesis, in 1822, and Calmeil's work in 1826, called to its remarkable phenomena the attention of all medical men practising in lunacy.

It would appear that Haslam first described the disease but did not name it. Calmeil, who followed the English psychologist, gave it a name and got the honour of the discovery. This is acknowledged by Brierre de Boismont who, in M. Tardieu's 'Supplément au Dictionnaire des Dictionnaires,' p. 601, after shewing that he had described the Paralysis of the Insanity of Pellagra before M. Baillarger, remarks:—"Je n'ai pas donné le nom à cette complication de la pellagre, cela est incontestable; mais pour tout

lecteur impartial, j'en ai fait connaître les principaux symptômes. Ma position a, dans ce cas, quelque analogie avec celle de John Haslam, relativement aux médecins français."

Calmeil in his early monograph says, "The conclusion therefore is permitted, that it is a chronic inflammation which gives rise to General Paralysis by determining to the brain a peculiar modification which we have not known how to appreciate; and which, independently of the changes recorded, may have existed in all the individuals whom we have dissected." In his later work, 'Traité des Maladies inflammatoires du Cerveau,' 1859, he designates the disease as "Periencephalitis chronica diffusa."

Other French alienists attribute the pathological cause of this disease to changes still more special and limited than those first alleged by M. Calmeil. Thus, Bayle, with whom Esquirol concurs, attributes it to a chronic form of meningitis; M. Delaye, to induration of the medullary substance. M. Bottex affirms that the meninges are always adherent to the cortical substance, and that any alteration in the medullary substance is rarely observed. M. Parchappe attributes it to the softening of the middle layer of the cortical substance, which permits the ready separation of the external layer. M. Belhomme confirms the alterations reported by others in the superficial parts of the cerebrum, but adds, that the changes originating them extend gradually to the very centre of the organ. These discordant opinions lead necessarily to the inference, that the pathology of this disease was yet purely a matter of surmise. That degraded conditions of nutrition are commonly found in the brains of persons dying of General Paralysis, was about all that could be stated as actual and reliable fact. The arachnoid is found opaque, but not so notably changed as to indicate the previous existence of inflammation in the common acceptation of that term. There is atrophy, and subarachnoid dropsy. The grey cortical substance is obviously thinner than in health. The medullary substance is often discoloured with pink mottling, or presents a slight shade of brown or grey. Its specific gravity is always diminished, a fact pointed out by the author in the Report for the Devon Asylum, for the year 1851, and more fully proved in his paper on the "Pathology of Insanity," in No. 29 of the 'Medico-Chirurgical Review.' In the above-mentioned Report, the author expresses his opinion on the pathology of this disease as follows:—"I believe that

General Paralysis is essentially *a disease of nutrition affecting the whole nervous system*—that nerve-matter, both in the vesicular and tubular portions thereof, is imperfectly produced—and that the cerebral or generative, and the conducting functions are consequently interrupted. If chemical research should inform us hereafter of what pure neurine consists, it may perhaps be enabled to show that, as in rickets, the utility of the osseous system is injured for want of certain earth salts, so, in this disease, the atrophy observable in the gross mass of the nerve tissues, and the general decay of function depend upon want or change in the quantity or quality of the neurine." We adhere to this opinion, which we believe justified by the fact first ascertained by us, and published in the above mentioned Report, that, "in the paralysis of the insane, the irritability of the muscles and the excito-motory function of the nerves is nearly lost; in ordinary paralysis, whether dependent upon lesion of the spinal cord, or of the brain, these functions are retained. I think this point important, as it tends to prove that the cause of this disease is not localised in any one portion of the cerebro-spinal axis, but consists in some morbid change, pervading the whole nervous system, and probably implicating the distal fibrils."

That this disease consists in some vice of nutrition, whose nature is yet unknown, but whose extent embraces the whole of the nervous system, and is by no means limited to the encephalic centres, is a view which also appears to us to derive support from the atrophied and changed condition of the spinal cord. In the above-mentioned Report, the author states, "I have made numerous examinations of the spinal cord, and always have thought that it presented a less diameter than ordinary. As, however, I could not verify the rough estimates of the unassisted senses by any satisfactory appliances of measure or of weight, I am unable to advance my knowledge of this fact as satisfactory or conclusive. Satisfactory proof that the spinal cord is atrophied would be of great importance; for, whilst most of the changes observed in the brain itself are common to other morbid conditions, it would probably be found that atrophy of the cord, in addition to these changes, is peculiar to this disease."

During many years after this was written, we paid much attention to the condition of the spinal cord in General Paralysis. We have weighed the medulla oblongata, and the upper portion of the cord, in

many instances; but, although our conviction is that its absolute weight is greatly diminished, the want of a trustworthy normal standard of comparison incapacitates the proof. The white fibrous matter of the medulla and of the cord has appeared to us indurated, as well as diminished in volume, while the columns of grey substance in the cord and the grey matter of the olivary bodies, have presented a deeper colour, often tinged with brown, and a softened consistence. The membranes of the cord, also, have, in many instances, been rougher than usual, and often accompanied with a dark grey discoloration.

Since the above observations were published in our earlier editions, diligent investigations have been pursued into the pathology of this disease which seems to possess a peculiar attraction for pathologists, probably excited by the expectation that it does really depend upon some one peculiar modification of the nervous system, the discovery of which may give a new and valuable key to further research.

It is remarkable, however, how little attention has been given until recently to the condition of the spinal cord, although all the symptoms would seem to indicate that this, if not the primary, is, at least, the constant seat of the disorder. Dr. Boyd, who first called attention to morbid changes in the spinal cord, has published in the 'Journal of Mental Science,' for 1871, the valuable records of his *post-mortem* examinations in the Somerset Asylum. At page 366, he gives a table of the conditions which he observed in the cord in 161 cases. In only 5 males and 1 female was the spinal cord found to be apparently in a normal condition. In the remaining 155 cases, the cord was softer than natural in 36; it was indurated, firm, tough and wasted in 20; fluid was found in the spinal canal in unusual quantity in 16, and blood in 14; and in all the other cases there were obvious morbid changes in the cord itself, in the canal, or the membranes. At page 19 of the same volume, Dr. Boyd records the morbid changes which he observed in the brain, but these were far from being so constant as those he met with in the cord; and there is nothing to distinguish them from the changes generally observed in chronic cases of Insanity without paralysis.

A valuable contribution was made, in 1869, by that eminent pathologist Dr. Lockhart Clarke, which will be found in No. 72 of the 'Journal of Mental Science.' In a case of General Para-

lysis he found on slicing the cerebral white substance of the brain—

"Numerous cavities of a round, oval, fusiform, or crescentic or somewhat cylindrical shape, and varying from the size of a pea or a barleycorn to that of a grain of sand, so that the surfaces in some sections strikingly resembled the cut surface of Gruyère cheese, while those of others had more resemblance to a slice of the crumb of bread."

"They were for the most part empty, had perfectly smooth walls without any lining membrane, and seemed as if they had been sharply cut out of the tissue. A few, however, were found to contain what appeared to be the remains or the *débris* of blood-vessels mixed with a few granulations of hæmatoidin."

"It is almost certain that at least the greater number of these cavities were perivascular spaces or canals which originally contained blood-vessels surrounded by their peculiar sheaths, and which subsequently became empty by the destruction and absorption of those vessels."

"These remarkable vacuoles or canals were also found in the optic thalamus, in the pons Varolii, in the anterior pyramid and the upper part of the medulla oblongata. Neither the lower part of the medulla nor the spinal cord presented any appreciable deviation from the normal state. In the grey substance, in some places, nerves and cells were unusually loaded with pigment granules; in other places they had undergone, to a greater or less extent, the process of disintegration; while here and there were scattered over areas of variable extent, irregular masses of fat particles of different shapes and sizes.*

Decidedly the most important contribution to the pathology of General Paralysis which has been made of late years is that of Dr. C. Westphal, published in the first number of Griesinger's 'Archiv für Psychiatrie,' and of which an excellent translation by Dr. James Rutherford has been published in Nos. 66 and 68 of the 'Journal of Mental Science.' Westphal's paper is both original and critical, and a great part of the value of his work consists in his power of collecting and estimating the observations and opinions of other observers. No one, from learning and knowledge of the subject, could be more competent to perform this difficult and important task.

The naked-eye appearances of the brain Westphal summarises as follows:

"Pachymeningitic, in part hæmorrhagic, collections upon the internal surface of the dura mater and hæmatoma of the latter; opacity and thickening of the pia mater in various degrees; in the slighter degrees especially along the course of the great vessels and the longitudinal cleft, frequently associated with the formation of small granulations upon the surface of the convexity;

* See also Dr. Lockhart Clarke's communication to the 'Lancet,' September 1st, 1866.

frequently the pia mater adheres to the cortical grey substance of the brain, so that in drawing it off, greater or smaller pieces of the latter remain attached to it, and the cerebral surface thus denuded of the pia mater acquires a torn and gnawed appearance. The adhesions occur essentially upon the summit of the gyri, and principally upon the convexity of the brain by the side of the longitudinal cleft, and on the anterior lobes. At other times the pia mater and its meshes are saturated and filled with serum; the membrane can then be easily removed without involving the surface of the brain. The ventricles, too, are very often much dilated with serous fluid, the ependyma is thickened, sometimes in the form of granulations. It has been further shown that in certain cases there is atrophy of the brain substance; this may in some degree involve the grey cortex, but chiefly the medullary substance. The consistence of the cerebral substance sometimes appears changed, the white somewhat firmer and tougher; the grey substance especially in its more superficial layers, somewhat softer than normal. In the latter there is at the same time observed either a great fulness of the blood-vessels, giving it a violet red colour, resembling wine grounds, or it appears pale and faded. The nerves at the base of the brain do not generally present any alteration; still, cases occasionally occur of atrophy of the optic nerves, and the nerves proceeding to the muscles of the eye."

"I have reason to believe that the olfactory nerve is more frequently affected than has been generally acknowledged."

In the interpretation of these appearances, preceded as they frequently are by maniacal and febrile symptoms, the author argues against the inflammatory theory, concluding as the result of comprehensive special observations "that the maniacal excitement of General Paralysis does not in itself stand in relation to pathological increase of temperature." He objects to Parchappe's method of examination and the conclusion he founded upon it, that the seat of the morbid process is in the cortical cerebral substance. Changes in this substance were investigated subsequently by Rokitansky who believed that an increased growth of connective tissue took place in it whereby a viscid glutinous fluid, rich in nuclei and the fibrous elements, was formed, with colloid and amyloid corpuscles resulting from the destruction of the nerve elements. Westphal points out the great difficulty of the examination, especially in the fresh preparations which were used by Rokitansky, and concludes, "I dare affirm that no one has yet demonstrated such processes in a manner at all convincing either in the grey or in the white substance."

The conditions of the cerebral vessels which have in this country been described by Dr. Sankey as pathological in this disease, Westphal considers to be normal.

"Whether we agree with the view taken by Robin of these sheaths (perivascular

lymph spaces of His) or not, it is at all events clear that if we compare with this the descriptions and drawings of Wedl, Sankey, and others, set down as pathological, we shall find that many of the drawings of the former, and all those of the latter, are merely representations of a normal condition of the vessels. The serpentine form, too, upon which great stress has been laid (produced by the contraction of the alleged newly formed connective tissue around the vessels) is frequently seen in a well-marked degree in healthy brains. I have never considered this condition to be pathological, and have often given expression to my views."

He concludes that nothing has as yet been discovered of the finer changes of the cerebral substance in this disease, and that what we do know consists in the cognizance of certain grosser changes in the consistence and the amount of blood it contains, which do not appear to be of inflammatory origin, for there are no granulated corpuscules in the cortex or white substance, and the other traces of an inflammatory process are wanting. Of the meninges, indeed, opacity and thickening are extremely frequent, and have an analogy with chronic inflammations of other membranes. But chronic meningitis does not explain the nature of the disease, for these appearances are often absent in General Paralysis and often present when there has been no paralysis.

"We may, therefore, at most infer that the cerebral changes lying at the foundation of the paralysis very frequently go along with chronic inflammatory conditions of the meninges, are accompanied by them, and stand in a certain relation to them; but not that the fundamental morbid process is identical with a chronic meningitis or under all circumstances depends upon it."

Although no peculiar characteristic and essential change has yet been observed in the brain, observations on the spinal cord have given more definite and practical results. Westphal remarks that the spinal cord was formerly very seldom examined, and, thus, it came to pass that its condition was either entirely ignored, or the purely cerebral character of the disease was expressly inculcated, as distinguishing it from other spinal affections. As both Dr. Boyd and we ourselves had, more than twenty years ago, emphatically inculcated our opinions that General Paralysis was a disease of the spinal cord, we think that Dr. Westphal, from want of information doubtless, scarcely here manifests the accurate appreciation of others which is so characteristic of his remarks.

"Diseased conditions of the spinal cord are now, however, as I think I have shown, quite common in General Paralysis of the insane, and may be considered as amongst the best constituted facts. Virchow and more recently Magnan have also recognised affections of the spinal cord. In so far as they have as yet been observed

these affections present various forms and degrees; sometimes the membranes are involved, sometimes they are not.

"On the dura mater, inflammatory processes are occasionally observed (pachymeningitis, also of a hæmorrhagic character). Affection of the pia mater is recognised by general opacity and thickening of its tissue: thickened bands and retiform lines are also frequently seen projecting from its surface, and, moreover, filiform or more membranous adhesions pass between it and the dura mater. In regard to the disease of the spinal cord itself, there may be distinguished, anatomically, the following forms:—1st. Affection of the posterior columns throughout their whole length from the cervical to the lumbar regions. 2nd. Affection of the posterior section of the lateral columns likewise throughout their whole extent. 3rd. Mixed affection of the posterior columns, and of the posterior portion of the lateral columns. The isolated affection of the posterior columns assumes a form somewhat different anatomically from the other varieties. It consists in a considerable loss of nerve elements (atrophy), in the place of which there has entered a connective tissue-like substance, which is sometimes plainly seen, when longitudinal sections are made, in the form of completely developed fibrous connective tissue. When transverse sections are made, it is seen that this connective tissue lies imbedded here and there in irregular plates, of larger or smaller size, between the transverse sections of the nerve tubes. Where the process is further advanced these plates unite with each other, so that when still further advanced, merely a connective tissue-like substance is apparent, in which here and there the transverse section of an isolated nerve tube may still be seen. The nerve tubes themselves appear partly very small, partly of ordinary diameter, and occasionally very broad. Atrophy and hypertrophy of the nerve tubes have therefore been spoken of; but this point demands further investigation, as, even in the normal spinal cord, considerable differences occur in the diameter of the nerve tubes. The mode of preparation (for example, unequal hardening) also plays a part. I consider, therefore, that this question is not yet fully elucidated."

In the posterior columns, constant distinctions can be made out in comparing the superior and inferior portions of the cord in regard to the intensity and extent of the disease, but in the cervical region Goll's tracts are very frequently only affected. The more anterior portions of the posterior columns situated next to the posterior commissure always remain most intact. Fat cells, pale cellular elements containing nuclei and corpora amylacea, are often observed. In affection of the lateral and postero-lateral columns granulated corpuscles and diffused lines of connective tissue, much broader than in normal conditions, are seen. If the lateral columns only are affected, the disease is always confined to their posterior section.

A connection has not yet been demonstrated between these pathological conditions of the cord and those of the brain. The granulated corpuscles are not found beyond the foot of the peduncles of the cerebrum, and no abnormal changes have been as yet observed in the ganglia of the nerves. The idea of the extension of brain disease

downwards to the cord, must for the present be abandoned. The extension of disease of the cord upwards to the brain is more consistent with the fact of the degeneration of the posterior columns diminishing towards the cervical region. Still no such extension can be demonstrated, and there is nothing as yet to justify the assumption of a direct continuation of the pathological process into the brain. We must for the present regard the cerebral and spinal diseases as simultaneously existing in General Paralysis in certain respects independently of each other. There is a certain disposition of the nervous system in which, and according to unknown causes, sometimes the spinal, at other times the cerebral, and at others the peripheral cerebral nerves are attacked by the morbid process either in succession or simultaneously. As the morbid processes in the brain are not encephalitic, the connecting link seems to be the frequent occurrence of chronic meningitis in the brain and the cord. Westphal distinguishes two forms of the disease which may be recognised during life by distinctive difference of gait. In the *Tabic* form which he attributes to grey degeneration of the posterior columns of the cord, the gait is like that in tabes dorsalis. The patients lift their legs high and throw them outwards, stand firmly while their eyes are open, but stagger or fall when they shut their eyes. The motor disturbance in this form very frequently precedes the mental disease for a long time.

In the *Paralytic* form the patient lifts his feet very little from the ground, taking short steps with legs apart, and does not stagger when he shuts his eyes. In this form the mental disease is generally far advanced before the motor affection is observed. Its pathology is believed to be chronic myelitis.

Whether the tabic form of General Paralysis is the same affection as the Paralysie Générale Progressive of Regnier, or the mental diseases which occasionally supervene upon ordinary tabes dorsalis, we have not as yet data on which to form an opinion. It is probable future observers will distinguish more than two varieties of the disease. The pigmentary changes in the ganglia of the sympathetic which were first described by Poincaré and Bonnet, have also been seen by Dr. Batty Tuke and Dr. Howden, but unfortunately for the sanguine hopes which were rested upon the discovery, they are found not to be peculiar to General Paralysis, but to be common in all forms of chronic mental disease.

The morbid conditions of the spinal cord which were first

indicated by Dr. Boyd and by ourselves, and the existence of which was pointed out with certainty by our own experiments on the gradual failure of reflex nervous action, have now been thoroughly recognised in the observations of Westphal, and they for the present constitute the special pathology of this disease. No change in the brain or its membranes has yet been demonstrated which is special to General Paralysis; but the peculiar psychical symptoms of the more common form of this disease, the optimism, and the fertile imagination which creates such wonderful delusions in the midst of progressing Dementia, lead us to anticipate that future investigation will discover some special and characteristic cerebral change.

We are but on the first steps of the ladder of observation and discovery into the physiology and pathology of the brain and its appendages, or to speak with more accuracy of the nervous system and its centres. It is only since the first edition of this Manual was published fifteen years ago, that the old belief in the spiritual nature of Insanity has utterly died out. It is only within this recent period that trustworthy observations have been made on the morbid histology of the brain, and even now next to nothing is known of its chemical pathology. But physical inquiry is alert and incessant, and if the authors should live to issue another edition, they confidently hope to record that the veil of ignorance has been rent in many directions, and that the genesis of mind and its diseases is no longer perceived merely as a general fact, but in its detail as a great and growing science.

In this direction the remarkable and suggestive experiments of Dr. Ferrier on the Faradization of the Brain, seem to us a long step in advance.[1] In these experiments, which we have seen and watched with intense interest, the experimenter is able to produce maps of the brains of various animals with the convolutions marked and figured as the centres of very various motions, not simple motions only, but combined and complex ones needing for their performance the co-ordinated action of numerous muscles, and many of them appearing to indicate emotional or ideational excitement. On the Faradization of the part of the cerebral cortex as marked in the map, the corresponding motion is produced with unfailing certainty. Sometimes the movements are slow and steadfast, sometimes they are continued in an epileptiform spasm, and this also is produced with certainty. The muscles and, may be, the

mind of the animal are played upon as Hamlet's companions could not play upon the flute. This, at least, these experiments teach us at once, that we do not as yet know how much of spinal function there is in the brain, and that the seat of epilepsy and of paralysis may sometimes be in the cortical substance. Neither do we know how much of cerebral power may not be localised by habit in the cord, explaining the apparently intelligent movements of decapitated animals.*

Would Faradization of the brain of the young animal produce co-ordinate movement? We trust that these experiments will ere long be supplemented by microscopic observation of their pathological results, if any, and also of artificially produced changes in the cerebrum and the cord caused by toxic and mechanical agents. The microscope is successfully questioning the conditions of chronic brain and spinal diseases; its next task will be to elucidate more recent changes in fever and Mania and conditions artificially produced by the physiologist.

* The brief summary of our present knowledge of the physiology of the brain, given at pp. 152–3, was printed prior to the publication of Dr. Ferrier's experiments. These, however, while they add to, do not in any way disprove, the statements there made.

CHAPTER VI (*continued*).

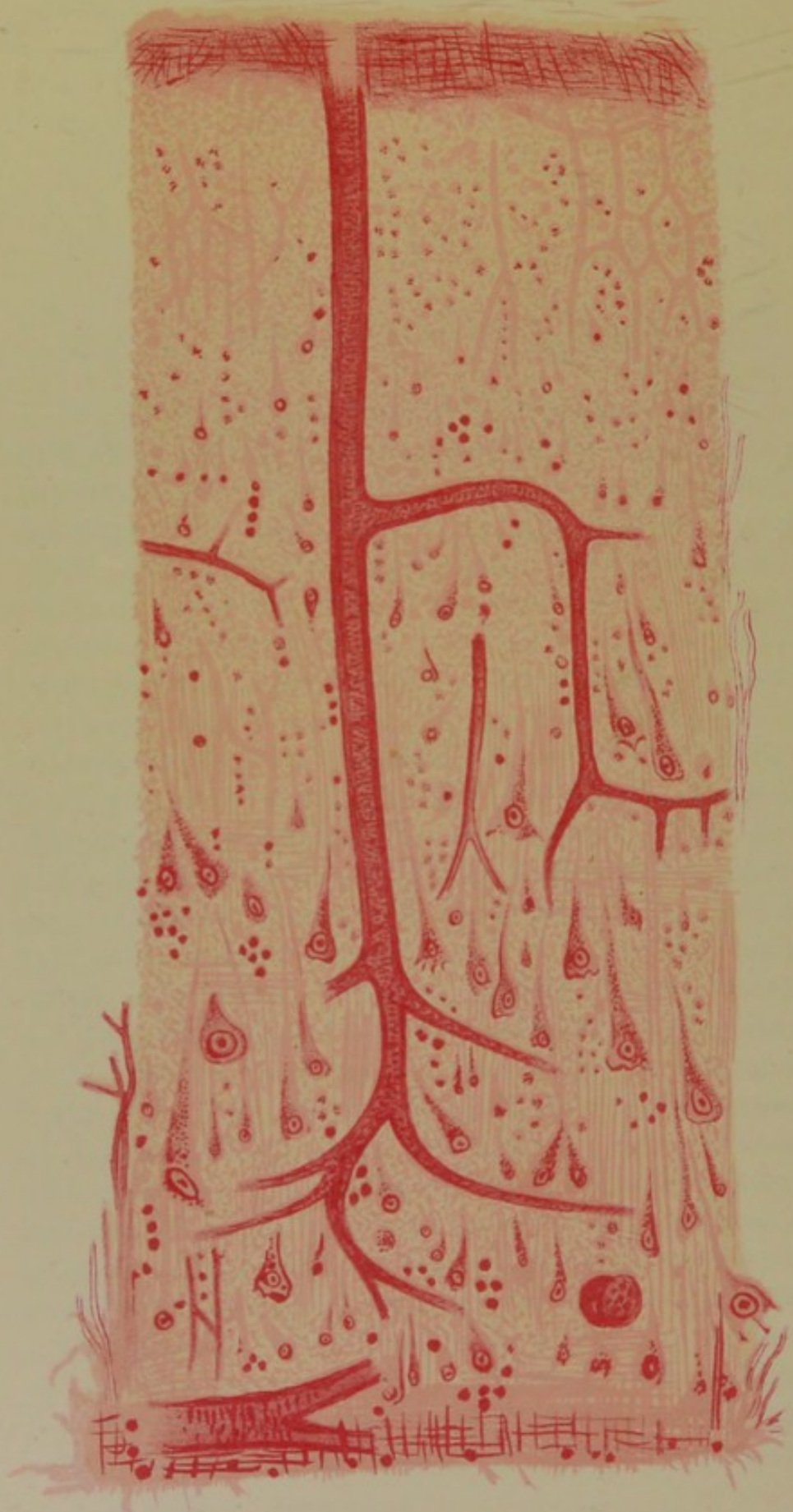
MORBID HISTOLOGY.*

The difficulties arising out of the peculiarly delicate structure of the brain, which for so long stood in the way of the anatomist, preventing him from arriving at a definite knowledge of the histology of the organ, were of necessity even greater stumbling-blocks in the path of the pathologist. The double-bladed knife of Valentin, which had aided in the elucidation of the healthy and unhealthy conditions of other organs of the body, failed in producing sections of the brain sufficiently thin for submission to the microscope, and it was not until chemical agency was employed that any accuracy was obtained in our knowledge of the relations of its complex elements. As soon, however, as it was discovered that chemical solutions could be employed, which, whilst hardening the nervous tissue, did not interfere with its relative structure, a host of observers broke ground in this yet untrodden field of anatomical research. In Germany the researches of Arndt, Jacubowitsch, Meynert, Bischoff, Stilling, Schroeder van der Kolk, Kölliker, and others,† have served to place the anatomy of the brain on almost as definite a footing as that of any other organ of the body, whilst in England the splendid demonstrations of Lockhart Clarke stand pre-eminent. The pathologist soon followed in the track of the anatomist, and although it cannot be said that his results have been so immediately brilliant, it cannot be denied that he has done most important work, which must, when further prosecuted, react on physiology and anatomy.

The purpose of this chapter is to describe as shortly and succinctly as possible the various histological abnormalities which have been observed in the brains of persons who have died insane, without reference to the question of their being the cause or the

* See p. 564.

† For full Bibliography see Stricker's 'Human and Comparative Histology.'



C. Berjeau, lith.

Banks & Co. Edin.r

effect of the disease. This has already been treated of in the previous chapter.

It may be broadly stated that morbid changes can be found in every insane brain, if the investigation is thoroughly worked out, and although we are not prepared to go as far as Van der Kolk, who says that he has never failed in obtaining satisfactory explanation of the symptoms which have occurred during life by post-mortem examinations, it is not too much to assert that minute and persevering microscopic observation will invariably prove the somatic nature of all those diseases in which mental aberration is the predominant symptom. Up to the present time microscopic cerebral pathology has done little more than indicate the existence of lesions in the various constituents of the centric organs; writers on the subject have not as yet succeeded in associating any special morbid appearance with any particular form of Insanity, and have therefore failed in establishing a broad basis of true pathological classification, leaving them, however, in no worse position than those inquirers who are seeking for explanations of Muscular Insanity. The Dementia of Paralysis and Catalepsy, the Mania of Chorea and Hysteria, the Monomania of Athetosis, have, as yet, defied the pathologist to place his finger on the absolute seat of the causating lesion. It is not sought to enter a plea *ad misericordiam*, we only desire to show that the difficulties which surround the study of nervous disease as a whole are equally distributed over its many subdivisions.

The thorough performance of a post-mortem examination of a case of nervous disease is a long and arduous task; we can no longer depend on the pound weight, the foot rule, or the naked eye as guides to a knowledge of the condition of the unhealthy brain, and unless the microscope is brought into play the autopsy must be considered imperfect.

In order to afford the student a criterion of health we have reproduced in colours Arndt's plate of the normal brain structures (Plate VIII). It gives a good idea of the constituents of the organ as viewed magnified 250 diameters, and stained by carmine.

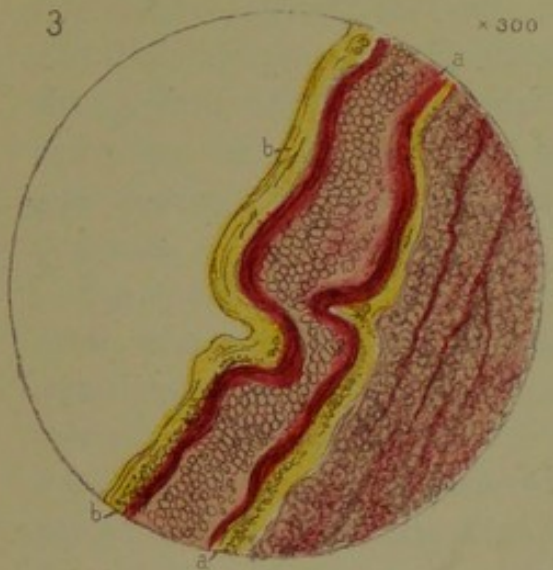
It will be seen on reference to this illustration that the brain-substance consists of vessels, fibres, cells, and an interstitial material.

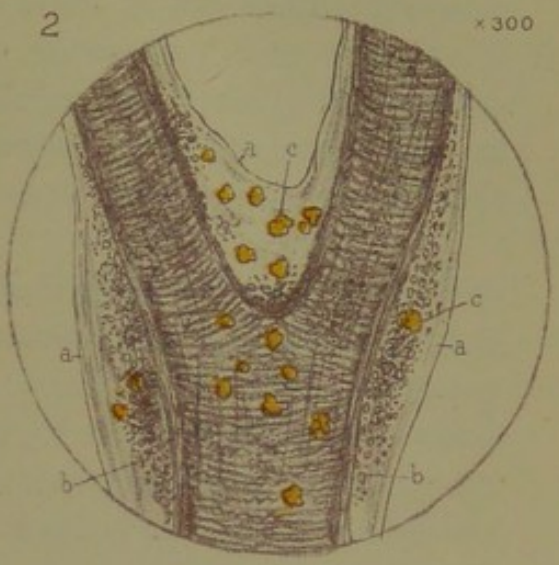
The vascular supply of the brain, its distribution and its amount, is of the highest importance to the cerebral pathologist.

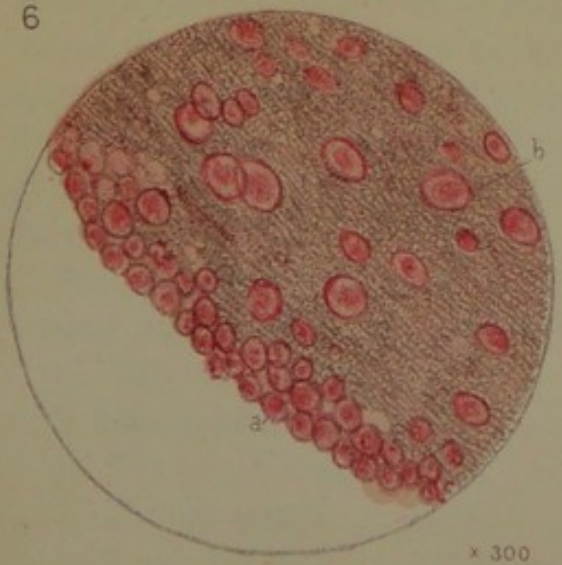
It is not here necessary to allude to the greater trunks or their branches, until these branches commence to ramify in the substance of the brain. Fig. 1, Plate IX, shows the distribution of the smaller arterial branches from a larger one situated at the bottom of a sulcus, and indicates very fairly the appearances met with in injected specimens. Had it been drawn more diagramatically it would have shown better the arrangement by which the brain is supplied at different depths by different systems of arteries. What is apparent at a glance in this picture is the enormous difference between the blood-supply of the grey and white matter. It may be fairly stated that the grey matter receives five times as much blood throughout its tissues as the white, indicating that the functions of the former are of a more active nature than those of the latter. It will be seen that the larger arteries go direct to the white matter, rarely throwing off branches on their way; that when these have passed through the grey matter they branch off almost at right angles from the original track and follow the direction of the inner layer of grey matter, the various branches communicating freely with each other by short connecting capillaries. The grey matter is supplied by two sets of vessels; the innermost layers by branches of somewhat less calibre than those going to the white matter, which branch off freely in every direction, anastomosing in the most intricate manner by means of loops and convoluted arterioles. These vessels supply all the grey matter, but the five outer layers are specially provided with a system of straight arterioles, smaller in calibre than those already spoken of, which do not seem to give off many branches at any part of their course. The general direction of the main vessels is straight, with few undulations or twists.

The normal condition of the nerve-cells, as they appear in prepared sections coloured by carmine, is well shown in Plate VIII, which represents a vertical section through the third frontal convolution (p. 637) magnified 250 diameters. It must be remembered that the largest cells are best marked in the frontal lobes, that they are slightly less numerous in the parietal, and sparsely scattered throughout the deep layers of the occipital; in the latter situation the cells are of a much more uniform size than in any other part of the brain. A well-coloured section of healthy brain cut in the exact transverse direction will show the fountain-

PLATE IX.







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like arrangement of the cells, their bases to the white substance and their apices uniformly pointing outwards. The majority of the cerebral cells are pyramidal in shape, and prolong their poles, according to Cleland, into the outer or horizontal layer of grey matter. In the deepest layer multipolar cells occur at wide intervals.

The nature and function of the neuroglia (nerve-glue) of Virchow, who was the first to make mention of it, is the subject of considerable difference of opinion. Virchow, Kölliker, and many others considering it to be a form of connective tissue, which was described by the former as an amorphous or, at most, very finely granular matrix supplied with nuclei; the latter, in addition, showed the existence of very fine fibrous trabeculæ. Henle, Arndt, Rindfleisch, Stephany, Wagner, &c., hold that the neuroglia is a nervous element, and this theory seems to receive a certain degree of support from the demonstration in it by Deiters, Fr. Boll, and Golgi, of certain cells which give off numerous processes. It may be generally stated that the nature and function of the neuroglia is still unknown; but that it generally presents itself to the observers as a clear, very finely granular material, rich in nuclei, which are readily stained by carmine.

There are other points in cerebral anatomy which need consideration and which will be taken up as they suggest themselves in connection with the morbid appearances of the various constituents.

It is hardly to be expected that a perfect examination by means of prepared sections can be carried out in all cases; but it is strongly urged that the microscopic examination of fresh specimens should never be neglected, for by it demonstrations of the most important lesions of the blood-vessels and cells can be obtained, and the results of the application of chemical agents to affected parts be noted.

The lesions which have been observed in the brains of the insane will be considered according as they affect—

1. The membranes.
2. The epithelium.
3. The blood-vessels.
4. The neuroglia.
5. The cells.
6. The nerve-fibre.

7. The histological appearances of special lesions, noticeable by the naked eye will be referred to.
8. The spinal cord.
9. The sympathetic ganglia of the neck.

The various changes in the calvarium, bony formations on the falx and other similar morbid conditions will not here be spoken of, as they do not come strictly into the category of histological lesions.

1. **The Membranes.**—(*a*) *Dura mater.*—A thickened condition of the dura mater is comparatively rare. Its microscopic characters are irregular dilatation and tortuosity of the vessels, the coats of which, especially the outer fibrous one, are much hypertrophied.

(*β*) *Arachnoid.*—The "milky arachnoid" of the insane has not been thoroughly described as it presents itself under the microscope in transverse sections. L. Meyer has pointed out the existence of fine granulations on its external surface, and Griesinger, under the title of "Hyperæmia of the Arachnoid," alludes specially to the "frequent and spontaneous hæmorrhages into its sac," particularly in "Paralytic Dementia."

The pia mater.—It has been recommended that the pia mater should be removed from brain specimens previous to submitting them to hardening agents, in order to allow the solution to penetrate rapidly and equally. This should never be done, for stripping off this membrane takes away the possibility of observing some most important lesions. The pia mater should, however, be carefully peeled off from such portions of the convolutions as are not to be reserved for hardening, placed on glass slides and cleaned with camel's hair pencils, *water alone* being used. Specimens worthy of retention should be set up in glycerine jelly. This should never be neglected, as the condition of the pia mater is very frequently an index to that of the subjacent nerve-tissues.

A *thickened condition* of the pia mater is of frequent occurrence amongst insane subjects. In vertical sections the two layers are seen widely separated, each presenting the appearance of distinct lamination. In the interspace distended vessels are to be seen, and not unfrequently the *débris* of extravasations more or less old; in recent specimens their muscular coat is to be seen thickened, more especially the circular fibres, which are

in some instances immensely hypertrophied. In order to differentiate between the thickening of the coats, it may be well to tint the specimen with a carmine solution, as occasionally a thickened condition of the adventitia has been observed. It is of the utmost importance to note the supporting pia mater, or *tomentum cerebri*, as it accompanies vessels entering the convolutions. It will be found deeply tinted with carmine for a considerable distance, but the colour gradually fades as it approaches the white matter, where it assumes more and more the character of a hyaline membrane, losing its fibridity and its power of absorbing pigment. In recent specimens taken from subjects who have died in the delirium of fever or from insolation, the vessels of the pia mater will be found surrounded by deposits of hæmatoidin. Large aggregations of crystals of phosphate of lime have been observed in one case of Idiopathic Melancholia.*

Thickening of the pia mater is always concurrent with thickening of the arachnoid. It is almost always found on the superior surface of the hemispheres, unless associated with acute general meningitis of the tubercular form. This disease is not more common amongst the insane than the sane.

In all cases of thickened pia mater a finely hyaline appearance is to be seen around the vessels, which, by treatment with glycerine and acetic acid, is brought more prominently into view. Sir William Gull and Dr. Sutton regard this as a peculiar characteristic material, a product of a specific morbid process, arterio-capillary fibrosis, of which the contracting form of Bright's disease is merely a local manifestation. They term it the hyaline fibroid membrane. Amongst the insane this appearance is very frequently to be found, unassociated with disease of the heart or kidneys. Dr. George Johnson believes it to be merely an artificial product of the action of glycerine and acetic acid on the adventitia, in fact that it has no actual existence. As will be shown further on, a somewhat similar condition is to be found in the internal arteries of the brain, and there is reason for believing that in the pia mater the appearance is due to thickening and cloudiness (the result of exudation) of the portions of that membrane in direct apposition with the vessels, which condition is brought more prominently into view by the clearing action of

* 'Brit. & For. Med.-Chir. Rev.,' April, 1873, p. 458.

acetic acid, and the endosmose of glycerine between the vessel and the enveloping membrane. These agents are not necessary for its demonstration, they only assist. The presence of a hyaline membrane is certainly not confined to cases in which the heart or kidneys have been affected; on the contrary, it may be found in all cases in which chronic hyperæmia of the pia mater has existed.

2. **Epithelium.**—The "ground glass" appearance which so frequently presents itself to the naked eye on the floors of the lateral and fourth ventricles in cases of General Paresis, and in those where chronic Mania has been a leading symptom, is the result of three different morbid conditions, which, taken in the order of their frequency, are changed epithelium, lymph exudations and crystalline deposits. The two former conditions are always associated with evidences of hyperæmia or inflammation. The neighbouring vessels are twisted and contorted, and show well-marked hyaline sheaths, the brain substance is indurated and the fibres are thickened. They not unfrequently occur together, and in some instances are accompanied by large numbers of amyloid bodies which extend for some considerable distance inwards. When change of epithelium is the cause of granulations a vertical section shows simply a thickening of the ependyma, resulting from proliferation of the epithelial cells, which protrude into the cavity of the ventricle somewhat resembling villi. When lymph exudations have pushed the ependyma upwards it presents the appearance of rough irregular bullæ-like nodules, consisting of the layer of proliferated epithelial cells and a greenish homogeneous stroma, which together overlie the brain matter; frequently deposits of the same material can be seen infiltrating the subjacent cerebral tissues. Deposits of phosphate of lime beneath the ependyma of the lateral ventricles have been recorded as occurring in a case of General Paresis. Bergmann discovered a formation of pretty large crystals of "double phosphate" in both plexus choroidei in a case of "Mania with mental weakness." (New Sydenham Society's translation of Griesinger, p. 429.)

Where granulations occur on the surface of the convolutions they usually depend on changes in the granular layer, or on lymph exudations.

A proliferation of the columnar epithelium of the central canal

of the medulla oblongata is of not unfrequent occurrence, occluding it at points where in health it is patent.

3. **Blood-vessels.**—We believe that the examination of the vessels of the brain in cases of Insanity is of primary importance; and, further, we are of opinion that in every case careful search will show that morbid changes take place in one or other of their component parts. Examination of the cerebral vessels taken from subjects who have died in the delirium of fever or from insolation will illustrate a diseased condition of comparatively recent incidence, but of very considerable extent; and in the severer and more lasting forms of Insanity we find, as we might expect, very well-marked deviations from health in every one of their coats. When we glance again at the picture (Plate VIII) which represents the normal condition of the finer circulatory apparatus of the cerebral lobes, we cannot fail to realise what a very vast and important influence the blood-supply must have over the functions of the organ. When we further reflect on the perversions of function in other organs of the body due to stasis or passive hyperæmia it is not difficult to comprehend the influence such conditions must have over the delicate and complicated tissues of the encephalon, and how rapidly they may be the cause of permanent lesions. Irregular or over supply of blood to the neuroglia must result in changes in its relations to the cells and fibres, productive of displacement and consequent impairment of their electrical conditions. If these abnormalities of supply are of long continuance we have a right to anticipate permanent lesions of cells, fibres, and nuclei, and, as a *sequitur*, chronic Insanity in one or other of its forms.

In all autopsies of insane persons special attention should be paid to the naked-eye appearances of the vessels of the centrum ovale; the degree of engorgement or anæmia must be noted, and most particularly whether they are dragged out by the passage of the knife. Vessels of moderate size should be dissected out (not dragged out), washed carefully with camel's hair brushes and water so as to clean them of brain matter, and submitted to the microscope. By this mode of proceedure certain of the following morbid changes will be discovered.

a. Thickening of one or other of the coats.

β. A thickened condition of the sheath or hyaline membrane.

γ. Deposits between the adventitia and the sheath.

δ. Proliferation of nuclei.

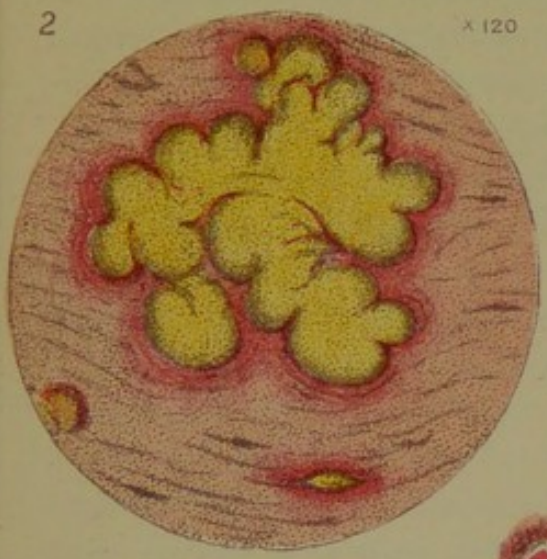
a. Thickening of the coats.—The *inner fibrous* coat has been found in some rare instances considerably thickened, and more distinctly fibrous than in health.

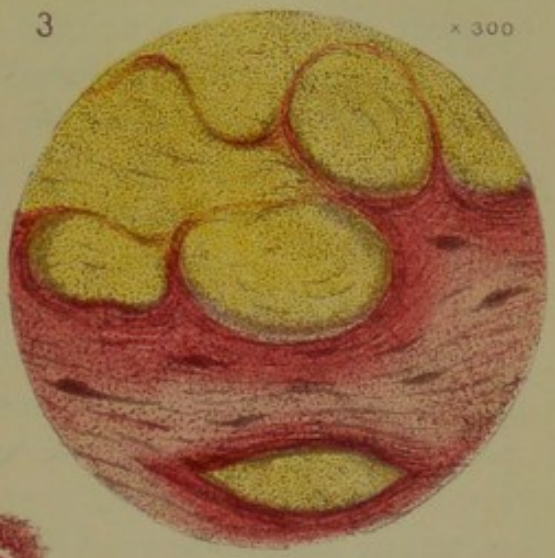
Hypertrophy of the *muscular* coat has been frequently observed, and ascribed to overwork of the vessel in propelling impure blood. It is much more probably due to overwork of the arteries in endeavouring to overcome obstructions in their ultimate ramifications. In extreme cases the circular fibres can be seen increased to fully three times their normal thickness (Plate IX, fig. 2). Treatment of the specimen with a carmine solution brings out their peculiarities with great distinctness. Plate IX, fig. 3, *a*, shows the appearance they present in a longitudinal section of an artery, and Plate X, fig. 1, represents them in a transverse section. A comparison between these pictures and the artery shown in Plate VIII will sufficiently indicate the difference between health and disease. It is still doubtful whether the longitudinal fibres are ever implicated. It may be generally stated that this hypertrophy is best marked in those who have been the subjects of diseases implying hyperæmia, *e. g.* General Paresis and Epilepsy. It is found in senile cases although to a less degree. Hypertrophy of the heart does not appear to be a *necessary* cause or accompaniment.

The adventitia is occasionally found thickened.

β. The *hyaline* membrane not being enumerated amongst the normal coats of the arteries in systematic works on anatomy is the reason why it is here considered separately. In many cases of chronic Insanity, if the vessels are treated in the manner described above, there will be seen a loosely enveloping membrane, apart from the adventitia, clear, homogeneous in structure, uncolorable by carmine, fibroid in consequence of longitudinal puckerings, forming triangular sacs at the bifurcations, and retaining between it and the adventitia various morbid deposits (Plate IX, fig. 2, *a*). In prepared sections, the pia mater, or rather its inner layer, the tomentum cerebri, can occasionally be traced entering with a vessel, deeply coloured by carmine, till it has passed through the grey matter and then becoming hyaline and unamenable to colouring agents. In sections of morbid brain in which the arteries have been cut longitudinally a similar membrane can be seen, non-fibrillated

PLATE X.





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and non-fenestrated, occupying vascular spaces, in which the fibrous and muscular coats do not exist on account of the thinness of the preparation, and it may be occasionally demonstrated, as in Plate IX, fig 3, *b*, in actual relation to these coats. It is difficult of demonstration in healthy subjects, although this has been effected by Lockhart Clarke, Robin, His, and others, but when thickened by disease this difficulty is to a great extent overcome. Rindfleisch says that, although the arteries of the brain are usually said to enter naked, it is inexcusable for any one familiar with the morbid anatomy of that organ to overlook the "sheath of connective tissue," which, however slender, surrounds its arteries. Obersteiner supports this view. In a beautiful series of preparations in our possession, taken from the same subject, its various conditions can be traced. A very acute and accurate observer, Dr. Herbert Major, has noticed its occurrence in cases of "Chronic Brain Wasting." The only objection to the term "hyaline membrane" is that it is suggestive of its being a supposititious or spurious coat; the whole of the available evidence serves to indicate that it is only the normal prolongation of the tomentum cerebri, the actual sheath of the artery, which in health is difficult of demonstration on account of its gossamer texture, but which when acted on by disease, or the normal abnormalities (if the paradox is admissible) of old age, is readily brought into view.

γ. *Deposits between the adventitia and the sheath.*—As a rule morbid deposits should be searched for at the bifurcations of vessels, as they are apt to collect in these situations in consequence of the triangular sacculation of the sheath. Plate IX, fig. 2, represents the two forms in which they are met with. It may here be stated that neither of these morbific products are confined to cases of Insanity; they have been observed to a less amount on the vessels of subjects who had died in the delirium of fevers and the coma of Bright's disease. They are of two sorts—the first, a very finely molecular material (*b*); the second, irregular crystals of hæmatoidin (*c*). The finely molecular material is to be found on the smallest capillaries, in which position it strongly resembles the spores of the Favus fungus; viewed by the highest powers it is homogeneous in structure, of a pale yellow or brownish tint, more commonly colourless; its individual particles possess highly refracting powers, are round, varying in size from $\frac{1}{4000}$ to $\frac{1}{7000}$ of an inch in diameter, and occasionally even smaller;

their appearance strongly suggests that they are of a fatty nature, but the application of tests for oil has failed to produce any change. From observations on the cerebral vessels of young animals in which this appearance was absent, it is not likely that it is the result of decomposition; from its gradation in intensity according to the health or morbidity of the subject, "the strong probability is that this deposit is the result of transudation, which in a small degree takes place during the process of death in all cases, and to a greater extent during life in subjects who have suffered from frequent congestions, or whose blood-vessels have been otherwise weakened." ('Med.-Chir. Rev.,' April, 1873, p. 455.)

Crystals of hæmatoidin, the second form of deposit, are almost invariably found on the cerebral vessels of insane subjects; they are irregular in shape, their angles rounded as if smoothed by attrition, and they are distributed pretty equally over the vessel except at the bifurcations, where they are aggregated.

It cannot be said that either of these deposits is peculiar to any one form of Insanity.

δ. *Proliferation of the nuclei of the walls of vessels* is a frequent and well-marked appearance. It seldom exists apart from proliferation of the nuclei of neuroglia, and is often associated with grey degeneration. Plate X, fig. 7, *a*, shows the degree to which this condition can attain. The nuclei do not seem to increase in size to the same extent as those of the neuroglia, but they have a greater tendency to become oval or irregular in shape.

Prepared sections are necessary for the demonstration of the following abnormalities of vessels:

ε. Microscopic aneurisms and apoplexies.

ζ. Abnormalities of direction.

η. Pigmentation of arterioles.

θ. A dilated condition of the brain surrounding the vessels.

ε. *Microscopic aneurisms* have been observed in the corpora striata and the substance of the hemispheres, in the latter position in the neighbourhood of apoplectic cysts. In the corpora striata they can exist in considerable numbers, fusiform in shape (Plate IX, fig. 4), and containing blood-clots. In rarer instances they are sacculated. In size they vary from $\frac{1}{300}$ to $\frac{1}{400}$ of an inch in length, and their breadth is about one fourth of their length. All the coats of the distended vessels are thickened to a great degree

(Plate X, fig. 5). MM. Bouchard and Charcot* have studied these aneurisms very carefully in their relation to cerebral hæmorrhage. They believe them to be due to what they term a "sclerous arteritis," which seems to be identical with the periarteritis of Rokitansky. Under this condition they describe a thickening of the fibrous coats attended with proliferation of the nuclei, and atrophy of the transverse muscular striæ. They figure the commencement of the aneurism as an ampullation of the diseased vessel, which eventually assumes the form of a pedunculated sac. In rarer instances they speak of the aneurisms being simply fusiform. We must refer the reader, however, for the full particulars to their interesting and important treatise.

Dr. Charlton Bastian and Dr. Blandford have described plugging of the vessels by minute embolic masses composed of aggregations of white corpuscles in cases of acute Mania and Delirium. Ekker has measured the small cerebral vessels of the grey matter in various forms of Insanity, the result being, that "in cases of Mania" they are generally found dilated, aud Ramaer noted the same condition in the vessels of the pia mater. Dr. Major describes a dilatation of the arteries in "brain wasting."

ζ. *Abnormalities in direction.*— Deviations from the normal course of the vessels may take the form of extreme tortuosity or actual kinking, and are evidences of frequent congestions: this condition has been observed in cases of General Paresis, and has been regarded as a compensatory arrangement for the absence of hypertrophy, a lesion rarely met with in this disease. This theory is doubtful. All elastic tubes, when pressure is put upon their walls, greater in intensity than they were intended to bear, have, on its relaxation, a tendency to kink and convolute. This is more especially true of tubes composed of any *fibrous* elastic tissue, so that it seems more than probable that the overstrained straight vessel of the cerebrum when relieved from congestion becomes tortuous or even twisted on itself.† Contorted vessels are often seen lying in distended vascular spaces containing the hæmatoidin deposits already spoken of.

η. The arteries as they enter the cerebrum from the pia mater are occasionally seen covered with *pigment* up to the actual point,

* See translation by Dr. Maclagan, 'Study of some Points in the Pathology of Cerebral Hæmorrhage.' Maclachlan and Stewart, Edinburgh. 1872.

† Tortuous vessels have been observed in chronic Bright's disease.

of entry. As this condition is always associated with the *débris* of old apoplexies between the membrane and the outer layer, the pigmentation is in all probability due to their disintegration. It bears a very marked resemblance to the pigment deposited on cells.

θ. The consideration of the *dilated condition of the brain substance surrounding the vessels* opens up important physiologico-anatomical questions in addition to those purely pathological. The "perivascular canals" were described by His as the lymphatics of the brain. Professor Laycock has long taught that the pia mater is a great lymphatic gland, and it is held by some that, if only by a logical process of exclusion, the spaces between the vessels and the brain substance must be regarded as the overflow conduits. If we accept the observations of Dr. Goodfellow, a similar relation exists in the cornea, and more recently E. B. Kiber and Tomsa have expressed an opinion that there is a system of lymphatics surrounding the vessels of the spleen. Obersteiner supports His and Robin in the theory of cerebral perivascular lymphatics, and even goes so far as to assert that he has observed lymph corpuscles in the canals. He goes even further and asserts the existence of a direct lymphatic connection between the cells and the perivascular canals by means of "spur-like" processes. This Obersteiner believes he has proved by direct injection, the results of which he has figured.* There cannot be a doubt that were this point in anatomy definitely settled, it would afford grounds for many tangible theories as to the causation of perverted brain action. In a canal which comprehends the main and the overflow, the patency of the latter must be occasionally interfered with in consequence of the liability of the elastic main (the artery) to congestive dilatation. From the post-mortem appearances afforded by the examinations of subjects who have died in a state of acute Mania, we gather that hyperæmia and congestion have been present during life. Experiments on animals have shown that when death has been caused by strangulation, which, of course, implies cerebral congestion, the coats of the vessels are in direct apposition with the surrounding cerebral substance. If we correlate these facts, at the same time admitting, for the sake of argument, the existence of perivascular lymph spaces in the brain,

* 'Wien Stzb. d. k. Akad. Wissener,' bd. lxi, 1 abth., Jan., 1871.

it is evident that during congestions the overflow pipe must be occluded, and the waste matter, which when unremoved has in all organs a morbific power, must in the brain exercise a toxic influence, which might account for many of the mental phenomena of Insanity. It must be admitted that the various deposits which have been observed lying between the sheath and the adventitia are strongly suggestive of a passage for the removal of waste products. It is doubtful, however, to what extent observations founded on forcible injection can be depended upon. In the brains of recently killed animals no space can be seen unless death has been caused by hæmorrhage, in which case a distinct canal is observable around the *empty* vessel. In subjects who have been liable to cerebral congestion spaces can also be seen, in fact the vascular canal is distinctly dilated to an extent several times the calibre of the vessel; the cerebral wall is indurated and has attached to it the sheath, on the inner surface of which lymph exudations exist in considerable quantities, and the adventitia is often attached to the sheath by fine trabeculæ, (the spur-like processes of Obersteiner?). Taking everything into consideration we are compelled to the conclusion that the evidence of the existence of perivascular lymph spaces is still imperfect; in the consideration of this subject we must place great stress on the probable artificial or morbid causes for the production of such canals. According to Eberle, His has abandoned his theory.

No difference has been detected between atheromatous deposits in the sane and insane.

4. **The Neuroglia.**—This substance is liable to various forms of disease, for the demonstration of which prepared sections are requisite. The neuroglia has been observed generally and locally increased, generally decreased in quantity, and its nuclei have been found undergoing morbid changes. These conditions have been named.

a. General sclerosis.

β. Disseminated sclerosis.

γ. Atrophy.

δ. Miliary sclerosis.

ε. Colloid degeneration.

a. Up to the present moment the belief in the existence of a *general sclerosis* of the neuroglia depends on the report of one

case, which is fully detailed in the 'Journal of Anatomy and Physiology,' May, 1873. In a hydrocephalic epileptic idiot (whose brain weighed sixty ounces), the hemispheres were found varying in weight; the left being 23½ ounces, the right 30¼ ounces. In the heavier or hypertrophied side the nerve-fibres were found lying in fasciculi consisting of from four to six strands.* These fasciculi were separated from one another by a clear, finely fibrillar plasm in which nuclei existed in numbers somewhat larger than normal. The general theory of the paper is that the hypertrophy of the right hemisphere was due to an increase of the neuroglia, and it is suggested that the bulging brain which is occasionally met with in epileptics is caused by the same species of sclerosis; also that the large skulls of hydrocephalic dwarfs may be filled with brains similarly affected.

β. *Disseminated sclerosis or grey degeneration* is a lesion frequently met with in the brains of the chronic insane. Its most frequent seat is the white matter of the motor tract, less frequently is it met with in the hemispheres. In the pons Varolii, medulla oblongata, and spinal cord of epileptics, patches of this disease are of common occurrence, and in an extreme degree. When a fine section of nerve-tissue affected by this disease is examined by the naked eye, circumscribed opaque tracts can be seen, evidently of a nature different from the general structure. In coloured sections these tracts remain untinted. As a rule they will be found contiguous to a vessel or vessels whose nuclei are much proliferated, and around which considerable proliferation of the nuclei of neuroglia exists. "In brains in which considerable proliferation of the nuclei is found, careful search will, in the majority of cases, enable the observer to discover opaque tracts, which refuse to become amenable to any clearing agent; these being submitted to the microscope, after immersion in glycerine, will be found not to present the normal histological appearances; the nerve-fibres are atrophied partially or completely, according to the stage of the disease; in transverse sections the axis, cylinders and sheaths are destroyed, and the field is occupied by a finely molecular and fibrillated material imbedded in a cloudy homogeneous plasm. In this matrix the proliferated nuclei exist, somewhat enlarged, sometimes slightly granular in appearance; but around the implicated spot they are to be seen

* See woodcut, loc. cit.

in much greater quantity and not actively diseased. The atrophied nerve-fibres occasionally project raggedly into the grey tract where they are lost." ('Brit. and For. Med.-Chir. Rev.,' July, 1873, p. 203). There exists considerable difference of opinion as to the origin and nature of the change. Rokitansky believes that it is essentially an increase in the amount of the "connective tissue" (neuroglia) with the proliferation of its nuclei, and that the homogeneous matrix which surrounds them is increased in quantity and becomes fibrillated, this condition causing pressure on the nerve-fibres and their consequent atrophy. Leyden refers the earliest change to an atrophy of the nerve-fibres, and the increase of the neuroglia to compensation for their loss. Rindfleisch and others are of opinion that the first stage is marked by proliferation of the nuclei of the vessels, which is followed by increase of the nuclei of neuroglia and the development of a morbid plasm which is, in all probability, modified neuroglia. So far our views coincide with his, but in numerous cases examined, nothing like nucleated cells, such as he has described, has been detected in the diseased tracts.

γ. *Atrophy of neuroglia* is found in extreme cases of Senile Insanity; its naked-eye appearances are well known. Under the microscope sections of such brains show a general disintegration of the various elements. The cells are deficient in number and deformed, the fibres are thickened and coarse, and the neuroglia does not exist in such quantities as to maintain the normal relations of parts; it is, in fact atrophied, and the general texture of the section suffers from the absence of the interstitial substance.

δ. *Miliary sclerosis.*—For the full details of this remarkable lesion the reader is referred to the 'Edinburgh Medical Journal' for September, 1868, and to the 'Brit. and For. Med.-Chir. Rev.,' July, 1873). From these two sources the following *résumé* is taken. Miliary sclerosis differs from all other forms of sclerosis in that it is not necessarily preceded, attended or followed by any proliferation of the nuclei; that it is a circumscribed lesion not involving surrounding tissues, except so far as it displaces nerve-fibres, that no morbid plasm is diffused beyond its own area, and that it is in no way connected with the blood-vessels. It is essentially a disease of the nuclei of the neuroglia of the white matter, and its progress is marked by

three stages. In the first, a nucleus becomes enlarged and throws out a homogenous plasm of a milky colour and apparently of a highly viscid consistence, for the long axis of the spot is almost always in the direction of the fibres, which are displaced by its presence instead of being involved by it; thus indicating that its density is considerably greater than that of the cerebral matrix. In the centre of these semi-opaque spots a cell-like body is generally discernible, possesssing a nucleus—the original dilated nucleus of neuroglia. During the second stage of development the morbid plasm becomes distinctly molecular in character and permeated by very fine fibrils. Plate X, fig. 2, indicates the appearance of miliary sclerosis in the second stage when viewed by a power of 120 diameters. Fig. 3 represents a view of the lobule of the larger patch as seen under 300 diameters. It is probable that at this period a further displacement of the contiguous tissue takes place, as a degree of induration of the compressed fibres and vessels which curve round the diseased tract is indicated by the increased amount of colouring material which they absorb.

Under a low power, and by direct light, these patches have a somewhat luminous pearly lustre (fig. 2); when magnified 300 diameters they are seen to consist of a molecular material with a stroma of exceedingly delicate colourless fibrils; they vary in size from $\frac{1}{40}$ to $\frac{1}{1500}$ of an inch in length, and have a distinct outline. They are generally oval and unilocular (*a*, fig. 2), occasionally bilocular, and more rarely multilocular (*b*, fig. 2). In the advanced condition of the second stage the plasm is more dense at the circumference than at the centre of the spot, and a degree of absorption of the nerve-fibres around it takes place. When a section is removed from spirit and dried, the nervous elements shrink, and the diseased nodules either drop out or can be picked out easily with a needle. These nodules are not gritty, they are not acted upon by hydrochloric acid, boiling alcohol, or ether. When pure nitric acid is added, in addition to a series of remarkable changes which are fully detailed in the original paper, the spots of disease and the surrounding tissues become clearer. It is still doubtful whether this lesion can be made out in recent specimens; with prepared sections, however, it is readily seen.

In the third stage the molecular matter contracts on itself, becomes more opaque, and often falls out of the section, leaving ragged holes.

This disease is of common occurrence in one or other of its stages; it has been observed in various parts of the brain, and it is not confined to any one class of mental disease, although it has been found best marked in Insanities accompanied by Paralysis or Epilepsy.

ε. *Colloid degeneration* may be either a primary or secondary product, that is to say, there is reason for believing that in certain forms of Insanity it is the primary pathological change, and that it is also to be met with in the brains of chronic cases as a result of long-continued perverted vascular action. This degeneration should be searched for in recent specimens. When found in the fresh brain it is seen to consist of round or oval bodies from $\frac{1}{4000}$ to $\frac{1}{2000}$ of an inch in diameter, bounded by a distinct wall, containing a clear homogeneous plasm, which is transparent and colourless. The contents are sometimes somewhat granular. In prepared sections, colloid bodies are occasionally found filling the whole field of the microscope (Plate X, fig. 8), and the general appearance of the section may be best compared to a slice of cold sago pudding. Colloid bodies cannot be coloured by carmine, and sections in which they exist to any large extent do not take on more than a very pale pink tint.

This lesion may be regarded as a degeneration of the nuclei of the neuroglia, and is found in both white and grey matter. It has been traced through various stages from simple enlargement to the extreme condition figured in Plate X, fig. 8.

It is not necessarily connected with proliferation of nuclei, and is believed to be one of the most important of cerebral lesions.

5. **The Cells** are liable to the following forms of degeneration.

α. Atrophy.

β. Pigmentary granular or fuscous degeneration.

γ. Calcification.

δ. Hypertrophy.

It is of the utmost importance to seek for these lesions in recent specimens; prepared sections have doubtless great interest in confirming fresh brain observations, but they should not be solely depended on. The grey matter of the convolutions should be examined as soon as possible after death, not more than twenty-four hours being allowed to elapse; thin slices should be taken and

successive portions from without inwards submitted to the microscope after being gently pressed out under a covering-glass.

a. Atrophy of the cells is met with in old-standing cases of Dementia and in Senile Insanity, and is confined to the outer cellular layers. The atrophied cells are shrivelled in appearance (Plate X, fig. 6), varying in size from a half to a fourth of their normal dimensions, and are surrounded (in prepared sections) by clear spaces about the extent of the normal area of the cell. They are readily and highly colorable by carmine. The broad white lines occasionally seen in the grey matter are caused by the atrophy of the cells in one or more layers.

β. Pigmentary, granular, or fuscous degeneration was first described by Meschede (Virchow's 'Archives' 1865), and Lockhart Clarke ('Lancet, Sept. 1st, 1866). Poincaré and Bonnet ('Annales Médico-psychologiques,' Sept. and Nov., 1868), point out the frequency of this lesion in General Paresis. In a short paper by Dr. Howden, of Montrose, is contained the best account of granular degeneration of cells as observed in this country. Dr. Howden does not regard it as specially confined to General Paresis. To quote his own words—"In all cases of long standing Insanity, the cells of the grey matter of the cerebrum present a granular appearance,* this appearance is most intense when the mental excitement has been most severe and long continued, as in General Paralysis, epileptic Mania, and remittent Mania: it is always accompanied by a deposition of granules of hæmatoidin outside the walls of the capillaries and smaller vessels, and usually by deposits of free granules scattered through the grey substance. A careful examination with a variety of magnifying powers inclines me to think that, in many instances, the granules are deposited, not *inside* the cells, but *around* them, as the hæmatoidin is around the blood-vessels; and I have sometimes noticed them scattered along the fibres coming from the multipolar cells. The granules are unaffected alike by sulphuric ether and strong alkalies. In extreme cases the cell becomes converted into an opaque yellow, horn-like body, in which no trace of a nucleus can be detected." We believe that this granulation deposit occasionally, although rarely, commences around the nucleus and gradually extends to the periphery. Under any circumstances the nucleus is the last

* It must be remembered that in the most healthy subjects a degree of granular deposit exists in the cells of the cerebrum.

part to suffer. We agree with Dr. Howden in thinking that these granulations are not of a fatty nature. Plate X, fig. 4, shows the commencement of the pigmentary granulation as observed on the cells of the deep layers of the convolutions of the vertex, and fig. 5, the extreme condition in a group of cells in the corpus striatum. The cells of Purkinje have not as yet been observed to be similarly affected.

γ. *Calcification* of the cells has not come under our notice. It is alluded to by Blandford as having been observed by certain pathologists.

δ. *Hypertrophy of cells.*—Drs. J. Batty Tuke and Rutherford in a paper read before the British Association in 1870, pointed out that in cases of Senile Insanity where the cells of the outer layers had undergone atrophy, the cells of the two internal layers appeared to be much increased in size. Dr. Major ('West Riding Lunatic Asylum Reports,' vol. iii, pp. 109-10), speaks of an inflated condition of the cells which closely resembles that described by the above-named observers. Examination of a long series of specimens will show a considerable difference in the size of the cells of the inner layers. It is possible that the term hypertrophy may not be strictly applicable, it is intended to indicate a more than normal fulness and distinctness of the cell, the cause of which, however, is as yet undetermined. We have in our posssession sections of spinal cord taken from a case of violent epileptic Mania, in which the multipolar cells are to be seen, with their poles as distinctly defined as in the diagrammatic drawing in Virchow's 'Cellular Pathology,' p. 260. The least practised observer must recognise that such a condition is beyond normality.

6. In **Nerve-Fibres** differences will be found as to their power of resisting pressure; in some cases they retain their normal condition under the covering-glass, in others they become readily ampullated; this does not depend on decomposition, as the observation has been made on various brains at a period not more than twenty-four hours after death, but would seem to indicate differences in the consistence of the fibres in the various cases. The degree of ampullation of nerve-fibre is noteworthy.

A peculiar morbid product, the nature of which has not as yet been definitely ascertained, is often found scattered throughout the substance of the hemispheres and corpora striata (Plate IX,

fig. 6), and on the surface of the medulla oblongata and the hemispheres bound down by the pia mater. These have been termed amyloid bodies. They bear no special resemblance to starch corpuscles, and opinion is divided as to whether they have any reaction with iodine. Virchow holds that these bodies are normal or at least the result of natural decay, but their presence in such great numbers in brains which have suffered from very acute diseases, suggests that they are actual morbid products.

Special Morbid Conditions of the Grey Matter.—In many subjects where the pia mater is found thickened, hyperæmic and closely adherent to the cineritious substance, whatever may have been the nature of their symptoms or disease, the five outer layers of grey matter will be found to have undergone a change more or less implicating their structure. In extreme cases these layers will be found presenting none of their normal characteristics, the cells are absent, the continuity of the fibres is destroyed, and their place is taken by a plasm closely resembling that of grey degeneration in the white matter. The absence of proliferated nuclei indicates a difference of genesis, and the general appearance is suggestive of infiltration of lymph, which has gradually caused atrophy and absorption of the normal structures.

In circumscribed spots or ulcers of yellow softening, vertical sections show ragged fibres, colloid bodies, and granular corpuscles in the base of the diseased tract. As no species of tumour of the brain peculiar to Insanity has been observed, it is unnecessary here to enter upon the general subject.

Microscopic examination of the spinal cord of the insane has not revealed any lesion peculiar to the various neuroses, except in the case of General Paresis. We exclude Epilepsy, as it is a disease not necessarily connected with Insanity. Drs. Westphal, Joffe, Meredith, Clymer and Boyd are of opinion that marked departures from health are to be found in General Paresis. The first-named pathologist describes an atrophied condition of the cells of the posterior columns, and an increase of their connective tissue, commencing externally and gradually extending inwards. He also believes in the existence of a chronic myelitis in the posterior section of the lateral columns, and in a mixed form of affection of the posterior columns and of the posterior portion of the lateral columns (Blandford); we have examined the cords of several general paralytics and have failed in demonstrating this change

as a necessary accompaniment of the disease, although in one case it was undoubtedly present. The cells of the cord were found in most instances undergoing the fuscous granular degeneration already described as affecting those of the hemispheres and corpora striata.

The cells of the sympathetic ganglia of the neck are liable to a pigmentary granulation. Poincaré and Bonnet attach considerable importance to this condition in relation to General Paresis. It has been found well marked in other forms of cerebral disease.

The *fatty* degeneration of the various brain elements so frequently spoken of by certain histologists must be taken *cum grano*. Doubtless, there are many appearances noticeable in the cells and vessels which are very strongly suggestive of their being of a fatty nature, but it will be found that the application of the various tests for oil fails to produce any evidence of its presence. The "free oil globules" in the substance of the convolutions are, we think, scattered *débris* of granular cells.

No attempt can be made, in the present state of our knowledge of cerebral histological pathology, to localise lesions. All that can be safely said on this subject is that the convolutions of the vertex and those immediately bounding the great longitudinal fissure are the chief sites of disease. As we examine the more dependent convolutions we find fewer and fewer indications of morbid action. In searching for cerebral lesions, we may be guided to a very great extent by the naked-eye appearances presented by the arachnoid and pia mater ; where these membranes are seen thickened or clouded, the subjacent cerebral substance is invariably diseased. The experience of every pathologist must confirm the statement that those conditions (except under such special circumstances as tubercular meningitis) are in ninety-nine cases out of a hundred confined to the superior convolutions. The vertex, that is to say, the upper fourth of the ascending parietal and ascending frontal convolutions (see p. 637), will be found to be the *locale* of the most definite manifestations of disease.

It must be remembered that cerebral pathology is yet in its infancy. Up to the present time, few observations have been made on the conditions presented by the brains of those who have died within a month of the incidence of mental aberration. It is in this direction that future work should tend. The rising generation of pathologists must direct its attention to the con-

dition of the nervous centres in all forms of disease, more especially those in which departures from psychical health are prominent symptoms. The desultory labours which have served the purpose of establishing the fact that certain lesions do occur in the brains of the *chronic* insane, must in the future be concentrated on the more important points of incidence and localisation.

A strong helping hand is being held out by the physiologist to the pathologist; the brilliant results of Ferrier's system of experimentation afford a hope of the establishment of a certain basis on which to build a definite school of psychology, towards which all students of mental science must converge.

SUPPLEMENTARY NOTE,

By DANIEL HACK TUKE, M.D.

(*Vide* p. 578.)

Dr. Lockhart Clarke, in his "Notes of Researches on the Intimate Structure of the Brain" ('Proceedings of the Royal Society,' September, 1863), enumerates eight distinct layers of the grey matter of the hemispheres, these being most marked in the posterior lobe. He informs us, however, that the first and the second laminæ there described may be fairly regarded as one, thus reducing the number to seven.

The *external* layer is of a pale or whitish colour, and the nerve-cells, which are comparatively few in number, are of various outline, angular, fusiform, &c., with their longer axes in different directions, but mostly within-outward. Some nerve-fibres run parallel with the surface both around the convolution and longitudinally; others radiate across them from the grey substance beneath.

The *second* layer, of a grey colour, is much thicker than the preceding, and is crowded with small cells, some of which are pyriform and pyramidal. From their broader ends, processes run partly towards the central substance of the convolution, and partly in the plane of the lamina, becoming continuous with various nerve-fibres.

The *third* layer, much paler in colour, is crossed, at right angles to its plane, by narrow, long, groups of small cells and nuclei, similar to those of the foregoing layer; these groups being separated by fibres radiating towards the surface, from the central white substance, and together forming a fan-like structure.

The *fourth* consists of similar but broader and more regular groups of cells and nuclei, and with the intervening fibres are still more fan-like.

The *fifth* is paler and whitish, and contains very similar cells, but the radiations are less marked.

The *sixth* is of a reddish-grey colour, about as deep as the preceding, with more numerous cells, some of which are of a rather larger size. There is less appearance of radiation.

The *seventh*, the central white stem or axis of the convolution, blends with the preceding layer. Fibres radiate from this stem, and with these some of the cells are continuous; they pass towards the surface of the convolutions. "When they arrive at the outer grey layer, they are reduced to the finest dimensions, and form a close network, with which the nuclei and cells are in connection." In addition to these diverging fibres, Dr. Clarke describes "another system of fibres (arciform fibres) springing from each side of the base of the stem, which *curve inward* and form a beautiful arch over its summit, where they decussate each other, and partly constitute the *innermost* pale layer. . . . The arciform fibres run in different planes, transversely, obliquely, and longitudinally. Where a convolution bends round upon itself at a right angle, a section made at an angle contains them in abundance; but here the separate fibres forming the arciform-bands are very short, being cut in their

passage. The curved arciform fibres then establish an infinite number of communications in all directions between different parts of each convolution, between different convolutions, and between these and the central white substance" (op. cit., p. 720).

It should be stated that Gratiolet in 1854, while confirming the description given by Baillarger, described a seventh layer.

We think it will prove convenient to the student to be provided with a brief description of the convolutions of the brain in accordance with the classification of Gratiolet, whose system is laid down in his 'Mémoire sur les Plis cérébreaux de l'Homme et des Primatés.'

A.—Convolutions of the External Surface (Figs. 1 and 2).

FIG. 1.

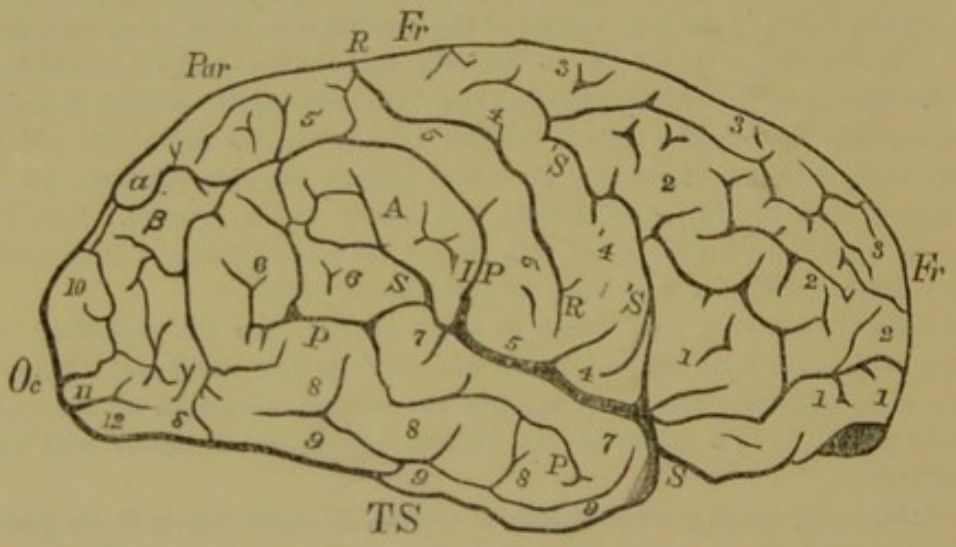
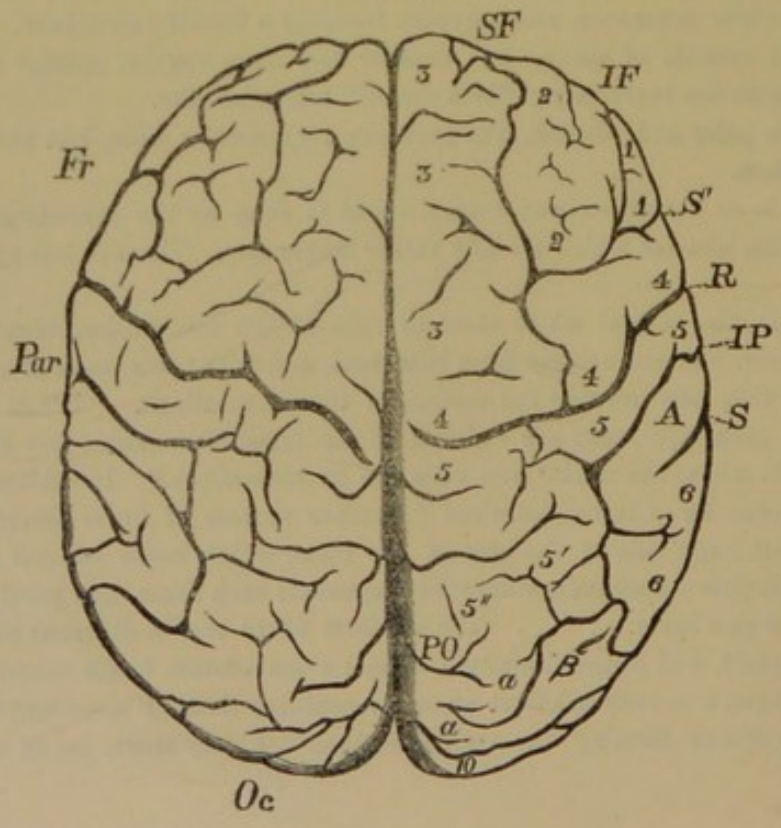


FIG. 2.



I. The Frontal Lobe (Fr., Figs. 1 and 2).

1. The orbital lobule. It rests on the roof of the orbit, and presents several irregular convolutions. Two of these bound the sulcus of the olfactory bulb (17 and 1‴, Fig. 3). Others are merely termed "orbital convolutions" by Gratiolet, and vary greatly, but Professor Turner distinguishes two, a posterior one (1″) in front of the most anterior convolution of the Island of Reil, and another, external (1⁗), which unites with the frontal convolution next described.

2. The inferior frontal or supra-ciliary convolution (Fig. 1, 1, 1). It is with the posterior third of this convolution (on the left side) that Broca associates the faculty of Language.

3. The middle frontal convolution (2, 2, 2).

These convolutions unite posteriorly, and terminate above the angle of the fissure of Sylvius.

4. The superior frontal convolution (3, 3, 3) consists of two minor divisions, one of which blends with the upper part of the first ascending convolution; the other bounds the great longitudinal fissure anteriorly.

(The middle and superior convolutions are so intimately connected that it is often difficult to distinguish between them).

Gratiolet observed these convolutions in their simplest form in idiots; those on the right and left side presenting a remarkable symmetry. "Such symmetry is never observed in the normal brain of the white man. The superior convolution, twisted in a thousand directions and often divided into two secondary ones, is never like its fellow. The second convolution presents irregularities still more striking; it might be said that Nature, by a last effort, for the purpose of accommodating more convolutions at this region, has, if I may so express myself, crumpled and crowded them together" (op. cit., p. 60).

II. The Parietal Lobe (Par., Figs. 1 and 2).

1. The first ascending parietal convolution (4, 4, 4). Professor Turner calls this the ascending *frontal* convolution because it is in front of the fissure of Rolando (R.), and is altogether more connected with the three stages of the frontal lobe, except that it lies on the parietal side of the ascending limb of the fissure of Sylvius (S′, S′).

2. The second ascending parietal convolution (5, 5, 5). Above and behind, it forms a lobule (5′, 5″) bounded posteriorly by the parieto-occipital fissure. This is connected with the occipital lobe by Gratiolet's superior connecting convolution (*pli supérieur de passage*). Together they form on each side of the longitudinal fissure numerous folds.

3. The supra-marginal convolution and lobule (A) bound the remaining portion of the fissure of Sylvius superiorly. According to Gratiolet this lobule is peculiar to man. From its summit several secondary convolutions frequently arise which blend with the superior annectent convolution. M. Gratiolet informed the writer that they were absolutely wanting in all the microcephalous brains he had examined, their presence forming, in his opinion, a character peculiar to the *normal* human brain.

This lobule blends with the next convolution, viz.:

4. The curved or angular convolution (6, 6)* which winds round the summit of

* There should be another 6 in the figure above and further back than A in order to correspond exactly with Gratiolet's description of this convolution.

the Sylvian fissure, and consists of an ascending and descending portion, the latter being separated from the fissure by the posterior marginal (or superior temporal) convolution.

III. The Temporo-sphenoidal Lobe (*T S.*, Fig. 1).

1. The superior temporal convolution (7, 7). It forms the posterior margin or border of the fissure of Sylvius, and is bounded posteriorly by the parallel or antero-temporal fissure (*P*).

2. The middle temporal convolution (8, 8, 8).

3. The inferior temporal convolution (9, 9, 9).

The middle and inferior convolutions are united by the third and fourth annectent convolutions of Gratiolet to those of the occipital lobe.

IV. The Occipital Lobe (*Oc.*, Figs. 1 and 2).

1. The superior occipital convolution (10).

2. The middle occipital convolution (11).

3. The inferior occipital convolution (12).

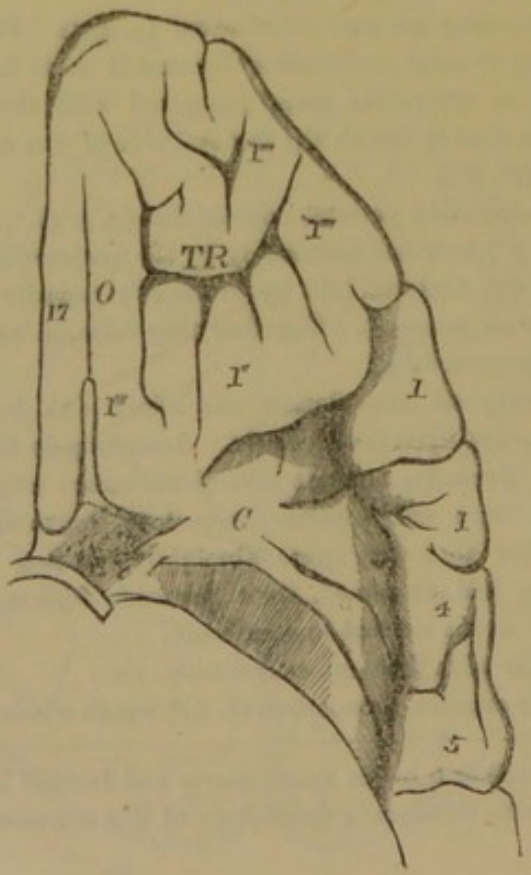
On the anterior margin of the occipital lobe are certain connecting convolutions which Gratiolet considered of great interest.

1. The superior annectent (or connecting) convolution (α). It is, in short, a prolongation of the lobule of the second ascending parietal convolution, and connects it with the summit of the occipital lobe.

2. The middle annectent convolution (β) passes from the curved convolution to the occipital lobe.

3. The inferior or third and fourth annectent convolutions (γ and δ) connect the middle and inferior temporal convolutions with the occipital lobe.

FIG. 3.

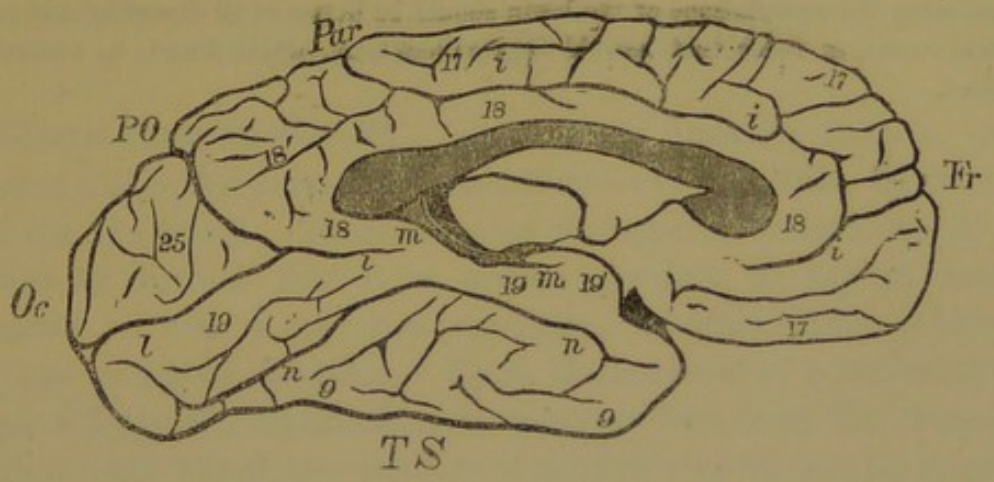


V. The Central Lobe. Insula (Island of Reil). (*C*, Fig. 3).

This lobe is hidden by the convolutions which go to form the Sylvian fissure—the curved convolution, the supra- and posterior-marginal convolutions, the two ascending parietal convolutions, and the inferior frontal. The convolutions of this lobe present a radiating appearance, and are in close relation with the convolutions forming the superior margin of the fissure of Sylvius.

B.—Convolutions of the Internal Surface (Fig. 4).

FIG. 4.



These are much less complicated than those of the external surface.

The Fronto-parietal Lobe (*Fr. Par.*) consists of two stages or convolutions separated by the fronto-parietal or calloso-marginal fissure (Fig. 4, *i*, *i*, *i*), the inferior of which—the convolution of the corpus callosum (18)—bounds that body. At first a single convolution, it ascends and becomes more complex in character, its posterior extremity expanding into a quadrilateral lobule (18′) marked by shallow indentations. Superiorly its lobulated appearance made Rolando compare it to the comb of a cock. This convolution is the gyrus fornicatus. The superior stage is tortuous, and consists of two convolutions. It presents a terminal lobule corresponding to the summit of the two ascending convolutions of the external surface of the parietal lobe.

In the Temporo-sphenoidal Lobe (*T S.*, Fig. 4) Gratiolet distinguishes three convolutions, the (internal) superior temporal, the (internal) middle temporal, and the (internal) inferior temporal.

1. The first, the "fascia dentata" or dentate convolution, forms the floor of the dentate fissure of Huxley (*m*, *m*) or anterior portion of the fissure of the hippocampi of Gratiolet. It is indicated by the short parallel lines above *m*, *m*.

2. The second is also called the hippocampal or uncinate convolution (19, 19). It is slender, longitudinal, but somewhat flexuous, and forms the inferior border of the fissure of the hippocampi. Anteriorly it forms the lobule of the hippocampus, which curving backwards becomes the *crochet* of the hippocampus (19′). Posteriorly it joins the convolution of the corpus callosum by means, according to Gratiolet, of a connecting convolution which interrupts the line of the hippocampal fissure; that is to say, separates the calcarine from the dentate fissure. Frequently the hippocampal convolution is described as part of the convolution of the corpus callosum.

3. The third convolution (9, 9) is below the collateral fissure of Huxley (*n*, *n*). It

corresponds to the external inferior temporal convolution, of which it is a continuation.

The Occipital Lobe (25, Fig. 4) is contained between the fissure of the hippocampi which posteriorly forms the calcarine fissure of Huxley, and the internal perpendicular or parieto-occipital fissure (*P O*). It is triangular in form, and is marked by a few shallow sulci.*

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* The woodcuts to which the foregoing description refers are taken from Professor Turner's "Convolutions of the Human Cerebrum Topographically Considered," for permission to copy which we are indebted to him. We would add that charts thus representing the convolutions of the brain should be in use in all dissecting and post-mortem rooms, in order that morbid appearances may, when found, be accurately localised.

CHAPTER VII.

TREATMENT OF INSANITY.

General Observations.—The treatment of Insanity may be considered under three heads or intentions—the Hygienic, the Moral, and the Medicinal. These domains of medicine, indeed, are by no means so distinct that it is always possible to say of means resorted to with a curative intention, whether their influence belongs to one or the other. Thus, the removal of a patient from home is hygienic, inasmuch as it removes him from the causes of disease—and moral, inasmuch as it produces novel mental impressions, which are often of much service in the treatment. A blister to the nape may be thought purely medicinal; but there can be no doubt that sometimes its moral effect is not insignificant by attracting the attention of the patient from a morbid idea to a new sensation. The three intentions are, however, sufficiently distinct to render their separate indication useful in classifying the various means employed in the treatment of mental diseases.

The sufficiency of the moral treatment of Insanity is maintained by some authors, in support of the spiritual hypothesis of the nature of Insanity. It emanates from, and is consistent with, this hypothesis—whose most able exponent was no less eminent a person than the late Dr. Mayo, President of the Royal College of Physicians. But it is Dr. Leuret, a French physician, who with that hardihood of logic which so frequently distinguishes his countrymen, has carried this opinion into practice, in a treatment of his patients respecting the moral character of which there can be no doubt. He combats delusions with stern rebuke and severe punishment; in fact, he applies to his patients, at the present day, the same principles of treatment as those which are recorded in the pages of 'Don Quixote,' in the case of the madman of Cordova who ceased to persecute street dogs after he had been well beaten

for his cruelty. Whipping lunatics in the good old times was not confined to Spain. Shakespeare makes Rosalind say—

"Love is merely a madness; and I tell you deserves as well a dark house and a whip as madmen do: and the reason why they are not so punished and cured is, that the lunacy is so ordinary, that the whippers are in love too."

In 'Notes and Queries,' vol. xvii, p. 327, we find the following notes on this subject.

"The law of whipping vagrants was enforced in other counties much in the same manner as in Buckinghamshire.

"The following curious items are from the constable's account at Great Staughton, Huntingdonshire:

"Paid in charges, taking up a distracted woman, watching her and whipping her next day 0 8 6

"Spent on nurse London, for searching the woman to see if she was with child before she was whipped, 3 of them . . 0 2 0"

It is not to be supposed, however, that any physician of the present day understands by the moral treatment which he advocates, the use of means of cure like Rosalind's or the capmaker's baton at Cordova; or the rotatory chair once in common use, but which fell into sudden disuse on the occasion of a death having taken place during its administration; or the douche, the plunge-bath, or the prolonged shower-baths, which have been too much used in this country. Doubtless what is meant to be designated by the term, is all that portion of the improved cure and treatment of the insane which is not pharmaceutical—for instance, the removal of a patient from the cares of business, or from family anxieties—surrounding him, in a cheerful country residence, with new scenes, new faces, new objects of attention and subjects for thought—affording occasion for the exercise of those organs of the mind which are not diseased, and of repose for those which are—doubtless all this is considered to be moral treatment. Whether it is entirely so, an obvious analogy may help to determine. Professor Laycock maintains analogy to be the essence of medical logic. It is, at all events, an important aid in medical reasoning, and may help, in this instance, to determine the right signification of a term whose wrong use has led, and is likely to lead, to serious errors. A merchant, with a hardy cerebral organization, but with a feeble stomach, suffers great anxiety from the fluctuations and losses of commerce; he loses appetite and diges-

tive power, becomes emaciated and generally out of health. A physician, who recognises the form of disease as nervous dyspepsia, recommends his patient to realise and retire, or to become a sleeping partner only, in business; and to occupy his time in travelling, or yachting, or sporting, or farming. He lays down some dietetic rules, and insists upon repose of mind and muscular exercise, the pure air of the country, and cheerful occupation. Under this regimen, and without the use of one dose of medicine, the patient shakes off a chronic disorder which has for years rendered life miserable, becomes robust in appearance and in fact, and able to dine like a ploughman. Is this to be called the moral treatment of dyspepsia? It is the very analogue of the treatment under which another mercantile man—who, inheriting a stronger gastric organization, but a more feeble cerebral one, and who has become insane from the same sources of nervous excitement and exhaustion, recovers under our care, without any aid from the pharmacopœia. Is that sensible part of the hydropathic system, which consists in cheerful society and regulated habits, to be called moral treatment? If so, the whole of the treatment of the insane which is not medicinal is rightly called moral; but not otherwise. Some cases of Insanity may, undoubtedly, be treated successfully without the aid of pharmacy; but it is of the utmost importance to recognise the agencies which are employed, in their just character and by their right names; otherwise a very mistaken idea of the nature of Insanity, and of the treatment which is generally proper for it, is likely to arise—has in truth arisen, and needs to be refuted. Thus, we find in the number for July last of the 'American Journal of Insanity,' an experienced physician declaring that "he always acted upon the presumption that the patients needed no active treatment. The insane hospital is to the insane what the splint and bandage are to the fractured limb—merely to ensure quiet." But Insanity is not quite like a broken limb, and the processes by which recovery takes place are more complicated than the mere growth of new bone. Rest in one position is all that is needed to set a broken bone, because it is known that with immobility, the pathological processes are certain to be reparative; but it is not always so in brain diseases. The emotional repose and intellectual diversion, which are now sought to be obtained in well-conducted establishments for the treatment of the insane, are not, strictly speaking, moral agencies; they constitute physio-

logical measures taken to procure functional repose for an irritated and diseased organ. In some proportion of cases where the malady is not profound, they may result in recovery. Pinel himself says that, before resolving upon any principle of treatment, he was in the habit of first limiting himself to the most simple means, and, in many cases, of allowing the malady to run what appeared to be its natural course, in order that he might thus be able to make available all the curative resources which Nature can develop when she is not impeded by factitious obstacles. Such a rational method of proceeding is not moral, but physiological; it is not opposed to medicinal treatment, but perfectly consistent with it; it resembles the expectant delay which every wise physician will adopt in the treatment of diseases whose nature is not acute, and whose symptoms are not urgent, after he has surrounded his patient with favorable sanitary conditions, and before he commences active interference.

The doctrine which the author has maintained in the 'British and Foreign Review' (Nos. 24 and 25), respecting the emotional origin of Insanity, is by no means adverse to the opinion that moral agencies, properly so called, possess but a limited efficacy in its treatment. The emotional theory, which we believe to be the true explanation of the psychical nature of Insanity, goes to prove this—that emotional disturbance is the frequent source and the constant accompaniment of mental disease. It is opposed to the theory upon which the dogmas of the English Courts of Law have been founded—that Insanity is a perversion solely of the thinking faculties; but it is quite consistent with, and indeed subservient to, the opinion—that the proximate cause of all mental disease is to be referred solely to an abnormal state of the brain.

Some brief references to the principles of treatment laid down by a few authors whose authority stands highest in psychological medicine, deserve notice before we enter into detail. In more than the abolition of chains and the rescue of the asylum from the worst kind of the old prison discipline in order to establish that of a hospital for the cure of disease, Pinel was the father of the modern treatment of Insanity. The interest which attaches to authors before his day is of an antiquarian, rather than of a scientific kind, and his writings and practice very thoroughly effected that necessary part of all great reforms—the attack and

loosening of the hold of abuses, which must be abolished before the work of reconstruction can commence.

Pinel's first chapter on treatment is, "On the Practice of Beating the Insane, as a Means to Promote their Cure." Well may he commence with the exclamation, "One must deplore the fate of mankind, when one reflects upon the frequency and the multiplied causes of Insanity, and the numberless circumstances which may prove disastrous to those who suffer from it, even in the best organised constitutions." He refers to the dogma of Celsus, that when the madman "has done or said anything outrageous, he is to be coerced with hunger, chains, and stripes," —to the account which Dr. Gregory gives, of the Scotch farmer of Herculean stature, who was famous for the cure of Insanity, by a method of hard labour, and who reduced his patients to obedience by a shower of blows, on the least show of resistance; and he says that Dr. Willis permitted his attendants to return blows for blows, in a manner "which gave to their brutality an independent and dangerous latitude." Let not these imputations on the treatment of the insane of this country surprise us, when we find the following principles of treatment laid down in Cullen's 'Practice of Physic:'

"Fear, being a passion which diminishes excitement, may therefore be opposed to an excess of it; and particularly to the angry and irascible excitement of maniacs. These being more susceptible of fear than might be expected, it appears to have been commonly useful. In most cases, it has appeared to be necessary to employ a very constant impression of fear; and therefore to inspire them with the awe and dread of some particular persons, especially of those who are to be constantly near them. This awe and dread is, therefore, by one means or other, to be acquired; in the first place by these being the authors of all the restraints that may be occasionally proper; but sometimes it may be necessary to acquire it even *by blows and stripes*. The former, although bearing the appearance of more severity, are much safer than strokes and blows about the head." This, without doubt, was moral treatment after the fashion of the day, and Pinel even does not quite shake himself clear of the idea that it was desirable to frighten a poor lunatic. He says:

"I have shown the nature and happy effects of the ways of kindness, in some cases of the *use of fear*—of a firm opposition to

the dominant ideas and obstinacy of some insane persons, or a courageous and imposing determination, devoid, however, of all outrage, exempt from anger and animosity, and consistent with the sacred rights of humanity. This conduct differs widely from the coarse harshness, the blows, the wounds, yea, even the atrocious and sometimes murderous treatment, which occur in asylums for the insane, where the keepers are not restrained by the most active and severe supervision." This bold physician, however, knew how to call brutality by its unsophisticated name. In his chapter on "Sudden Immersion in Cold Water as a Means of Cure," he describes Van Helmont's plan of keeping a patient under water until he was nearly drowned, in order that his extravagant ideas might be destroyed, even to their primitive traces—an object which, according to this physician, could not be gained except by obliterating these ideas by a state bordering upon death (idcirco inveniendum erat remedium quod posset occidere, necare, tollere, aut obliterare præfatam illam amentiæ imaginem). "One must blush," says Pinel, "at this medical delirium, worse, perhaps, than that of the madman whose reason it was to restore."

Pinel was in a position to criticise such enormities with unflinching severity, since he could affirm that his own attendants never raised a hand against a patient, even in reprisal; that the strait-waistcoat and seclusion were used as little as possible; that the repression he used was devoid of rigor, and in degree not exceeding the occasion, as was often proved by the patient's yielding to it, on frank and friendly explanation; and that even the fear which he thought so useful in the moral treatment of his patients, was a sentiment to which esteem could ally itself immediately that reason resumed its sway. Fear, conjoined with love, are the elements of veneration. It is no wonder that Pinel's patients were capable of entertaining this high sentiment towards him, for it is the one which, at this distance of time, we feel that his whole character was calculated to inspire.

Pinel's chapters on treatment, however, full as they are of vigorous denunication of the absurdities and cruelties which passed for treatment in his time, yet leave the impression that he had only been able to advance so far in the right path as to distinguish that which was decidedly wrong, without being able to found a system to replace the one which he demolished. He replaced,

indeed, the brutal and cruel usages which were formerly employed in the custody of the insane, by a method which, although far from being so gentle and indulgent as that which prevails in the best asylums at the present day, was nevertheless animated by a true spirit of benevolence and of that sound common sense which is its best ally; he not only did this (and, in doing so, he denounced baths of surprise, douches, and other painful modes of treatment), but he also ridiculed the "*polypharmacie monstreuse*" of his immediate predecessors in the treatment of Insanity. "Books of medical men, says Montesquieu, are monuments of the frailty of human nature and the power of art, which make us tremble when they treat even of the most trifling maladies, so much do they hold death up to us; but, when they speak of the virtue of remedies, they place us in entire security, as if we were immortal!—This subtle criticism, so applicable to the mass of medical writings which adorn or burden our libraries, cannot but recall itself to one's memory when one constantly meets, in works upon Mania, with such empty terms as intemperature of the brain, the preparations of the humours before their evacuation, the seat of the peccant matter, and its so-called evulsion, or repulsion, &c. Are these very philosophic reflections not justified by a long catalogue of powders, of extracts, of juleps, of electuaries, of draughts, of cataplasms, &c., destined to triumph over mental disease? And what ought one to think of the laws so religiously kept, even down to our day, of bleedings without distinction either of the exciting causes, or of differences of sex, or of individual constitution, or of the diverse kinds of Insanity, or of the stages of the disease?" Pinel proposed to himself the task of assigning the proper limits to medicinal treatment, "since frequently our expectant method, seconded by a moral and physical regimen suffices to cure, and in other cases the evil is beyond all resource." Doubtless, the discontinuance of glaring abuses, and the substitution of a rational expectancy for a "*polypharmacie monstreuse*," "for the errors of a doctrinism full of prejudice and hypothesis, for the reign of pedantism and ignorance," was a change entirely beneficial; but it indicates a task half completed. Rarely do the fates permit that the same hands shall destroy and reconstruct; and Pinel was compelled to leave it to his successors to bring the treatment of Insanity within the domain of scientific medicine. The man upon whom this robe especially fell, was his eminent

pupil Esquirol. To him we owe a considerable advancement towards a good analysis of mental diseases. An accurate observer and an elegant writer, he recorded the symptomatology of these affections, in a manner which has never been surpassed. Faithful to the humane traditions of his great master, he adhered to his general method of care, while upon that of his treatment he made important advances. Esquirol had the advantage not only of the clear field for the exertion of the medical art which had been provided by Pinel's reforms, but he also had that of being aided in his labours by the observation and experience of other devoted workers. Thus, Bayle and Calmeil made him acquainted with General Paralysis, and gave him a power of prognosis, of the utmost importance in treatment, which his predecessor did not possess. A systematic exposure of the ignorance of others is not an amiable mode of making known our knowledge; but the nature of the errors combated by an author is sometimes the best criterion which his works afford of the existing state of general opinion on the subject of which he treats. Thus, we do not find Esquirol debating the propriety of treating Insanity with the violent means recommended by Celsus and Cullen. Far in advance of this, he combats the ignorant notion which views Insanity as one disease :—" In order to establish the basis of sound therapeutics in the treatment of mental alienation, it will be necessary to recognise all the general and individual causes of the malady; to distinguish by certain indications the source from whence the disorder has its rise; to determine whether the physical reacts upon the moral nature; to decide what varieties undergo spontaneous cure, those which demand moral remedies, those which require medicinal ones, and those which only yield to a mixed treatment."

" What misfortunes and obstacles must those practitioners have encountered who have been only able to see one individual disease in all the insanities which they have had to treat! They were not ignorant that, delirium being symptomatic of almost all diseases when approaching a fatal termination, Insanity might be also entirely symptomatic; they were not ignorant that there are instances of Insanity evidently sympathetic; they knew that a thousand exciting and predisposing causes give rise to Insanity; but paying no attention, except to the most obvious symptoms, they have permitted themselves to be imposed upon by the impetuosity, the violence, the mobility of these patients; they have

neglected the study of the causes of Insanity, and that of the relation of the causes to the symptoms. Under the domination of theories, some have only been able to see the existence of inflammation, have accused the blood, and abused the lancet; others, believing in irritating bile, have checked the secreting organs and injured their functions. They have been prodigal of emetics and drastics. Some, having only taken into account the nervous influence, have given anti-spasmodics in excess. All have forgotten that the practitioner ought to have present to his mind grand general views—the systematic ideas which dominate, which constitute medical science, the art which ought especially to devote itself to a thorough knowledge of the circumstances and of the symptoms which are capable of disclosing the causes, the seat, and the nature of the malady which it has to combat." "Often one must vary, combine, modify the means of treatment, for there is no specific treatment of Insanity. As this malady is not identical in all persons, so it has in every individual its different causes and characters; so new combinations are required, and a new problem is to be solved, for each insane person under treatment."—('Maladies Mentales.')

To have been the first to lay down the above sound principles of treatment was a great merit, and one scarcely to have been expected from a physician whose belief in the pathological foundations of psychological science was at least feeble. The above broad and just views of the treatment of Insanity are as needful to be urged at the present day as at the time they were written; for although specific drugs are less in vogue, narrow and stereotyped modes of treatment are scarcely less in favour than they were, or less dangerous. And in no class of disease does the treatment need to be more infinitely varied than in Insanity. In other wide classes some broad rules may be laid down for the treatment; and although physicians may differ respecting these rules, they will be found to adhere to one or other set of opinions respecting them. Thus, one feeds in fevers, another depletes; but in Insanity, cases which present symptoms, at first sight, of close resemblance, demand most opposite modes of treatment; and cases which at first present symptoms most unlike, sometimes require to be treated in the same manner. An educated and exact observation is required to distinguish between the acute delirium which arises from cerebral hyperæmia, and that which arises from

cerebral excitement in sympathy with intense irritation of some part of the periphery of the nervous system: or from the cerebral excitement which is but an expression of the defective nutrition of the organ from poverty of blood; or cerebral excitement propagated to all parts of the organ from some focus of irritation, some *foyer* of disease in itself—as a small portion of inflamed substance or membrane, or the structural mischiefs surrounding an apoplectic clot. In all these instances the symptoms may bear a strong resemblance to each other; and yet how different is the mode of treatment demanded in each of them!

Prophylaxis.—The prevention of disease is daily becoming the first and most earnest intention of medical science in all its branches and departments, and the prevention of mental disease is clearly within the scope of the physician's highest aims. If, as Mr. Gladstone has recently told the British Medical Association, the family medical man has taken the place which the priest formerly arrogated to himself, as the confessor, adviser, and director of our modern social life, he is well placed to dam back the sources of Insanity at the very fountain head, to oppose with all his influence the generation of hereditary lunatics, to conserve by his care the bodily and mental health of pregnant and parturient women, and thus to provide that infants may be born with brains capable of sane life—to watch during the tender years when mind is forming with marvellous speed, and to indicate the natural laws which must not be broken without peril to the mental health—and then to advise against pursuits, occupations, and professions which may seem dangerous to doubtful mental stability. All this the confidential medical adviser can do, and is from time to time called upon to do, and in this way the prophylaxis of mental disease is widely promoted by the wise men of our profession in their general practice.

It is not, however, in this broad and catholic view that we wish to consider this question, but rather from the narrower point of view, how the physician may prevent the outbreak of Insanity in a person who not being yet insane is in more or less obvious danger of becoming so. No medical forethought can prevent the occurrence of Insanity from accidental causes, from fevers, sunstroke, and other physical injuries; but a vast proportion of the insane become so in consequence of psychical conditions of life and

modes of living which lead to the result as certainly and evidently as unsanitary conditions of physical life lead to typhoid fever or tuberculosis, and it is in such cases that a prophylaxis can sometimes be established. In order to do so the first step is the recognition of the Insane Diathesis.

Insane Diathesis.—This peculiarity of constitution which was first insisted upon by Morel of Rouen, and by Moreau of Tours, and which has been eloquently described by Dr. Maudsley in his able work 'On the Physiology and Pathology of the Mind' (p. 319), is, there can be no doubt, an element in the production of Insanity which can be greatly controlled by prudent advice and skilful treatment. Dr. Maudsley has described this mental condition, under the designation of the insane temperament or neurosis spasmodica, as being rather intelligential than emotional. This description, however, does not quite correspond with that which we understand by the insane diathesis. The being he describes as odd, queer, strange, and not quite right, who does things in a different way from all the rest of the world, who thinks about things under strange and novel relations, who is impressionable to subtle and usually unrecognised influences, and "who now and then does whimsical and quite purposeless acts," this being whom we, too, have often met with in life seems to us really of unsound mind. The crack may be narrow, and very frequently it does not widen, so that such a feckless, odd, queer, strange, and not quite right being remains in much the same condition to the end of his days. His condition is complete in its incompleteness and unchanging. But by the insane diathesis we mean the condition of a person who is of really sound mind, yet who from constitutional fault is more liable than others to mental disease. As a person with the gouty diathesis may have no symptoms of gout but only be liable to them on slight occasion, so the insane diathesis is not Insanity but is a standing and ever imminent threat of it.

It is as real a fact as diathesis of gout, or of tubercle, and as hereditary, not unfrequently indeed generated *de novo* by unsanitary conditions in the parentage or in the fœtal or infantine life, but most frequently the outcome of hereditary predisposition. One form presents itself as constitutional timidity and self-depreciation; the elastic spirits of youth are absent, and the world from the first paints itself in sombre colours. A more frequent form, at least in the male sex, is a reckless spirit of audacity and defiance

of and resistance to all rule, often accompanied in children by lying and cruelty, and passing with advancing years into outrageous irregularities of life and debauchery.

Another form is that of overweening self-conceit and preposterous vanity; and yet another manifests itself in simply detestable temper, moroseness varied with outrageous passion. In all these forms the intelligence is not unfrequently precocious, and is always intact, for it is assumed, and is the fact, that these people are not actually insane but have only the tendency to become so.

In these conditions moral treatment is the true prophylaxis. If left to run their course they inevitably mature into mental disease, and if the tendency be strong, too often nothing can prevent this termination. But if the more favorable instances of these ailing minds are brought under the influence of strong and wholesome minds, if wise culture be applied to the erring emotions, and discipline to the conduct in the early years of life, while they are yet applicable, the fearful heritage may oftentimes be avoided.

In childhood and youth moral discipline is not impossible, although in this era of wanton independence, the rights even of children to do exactly that which is sweet to their own wills are exercised to a degree which our forefathers would have thought wrong and ruinous. Still during legal infancy the parents or those who are *in loco parentum* possess a legal power, which may be exercised in cultivating the emotions which are the springs of conduct, and the sources of sane or insane life.

The choice between home treatment and school treatment, and if the latter, the choice of school public or private, is often most important. Some boys with the insane diathesis will do well at a public school, others would inevitably go wrong there. Few, if any will do well at home, where it is almost impossible to be strict without being stern, or to carry out the most necessary discipline without harshly setting aside the claims and bonds of natural affection. The conduct of Howard, the philanthropist, to his son, is a notable example of the unwisdom of a father to affect the *rôle* of a pedagogue. But the right choice of a tutor or a schoolmaster may in these cases of which we are writing be the most important act towards the preservation of mental health which any one can be called upon to perform, and there are schoolmasters now who really study mental peculiarities and who devote themselves to the task of training such minds as are tending towards

abnormal development. Need we indicate these qualities which such a task demands? Method, patience, persistent command of temper, self-denying industry and much knowledge of child nature. When we see what these qualities can do with the young idiot, we need not fear that they will always be powerless with the child whose mental functions are not absent but aberrant.

Mental health depends so greatly upon physical health that the physician will constantly be able to promote the prophylaxis by giving good advice as to the growth of a sound body. Air and exercise, and food and raiment have a powerful influence upon the mental growth of these frail children. Their studies also, that they should not be too severe, and that they should not be too complicated or stimulating to the imagination or the passions, that they should be wholesome in degree and kind, this also is an element of precaution which should by no means be overlooked.

When the child has become a man or at least when he has become his own master is the time of greatest trial. The physical and moral storm of puberty has had to be encountered, and greater temptations have to be met with less guidance. At college, youths who have even passed through public schools without disaster often break down into all the exaggerations and aberrations of emotion we have mentioned, and, much more, do boys who have been brought up in the relaxing indulgence of private homes.

When mental instability is manifested at this age, the question may be put to the physician whether the youth shall go on with his studies or be idle, or in what manner shall he hit the safe medium of wholesome work, or shall he travel or remain at home, or what calling shall he choose; questions which can scarcely be answered aright without much knowledge of his art and of the world. In adult life the prophylaxis will include the consideration of an infinite variety of circumstances. Should the threatened man give up his work or his business if he can do so? In many cases, undoubtly yes; in many others, certainly not. We have known several instances in which the anxieties and chagrins attending such a step, taken with precautionary intention, have resulted in the outbreak of lunacy which it was meant to avert. Yet if the calling is attended with anxieties which weigh upon the ailing mind, it should be given up for a time or its burthen should be lightened.

Should the threatened man travel? We think not often. Change

of scene may do much good, but not constant change of scene with its labours, irritations and trials, especially if undertaken in foreign countries. This constant change of scene which we call travel easily suggests itself to friends and physicians. It is so obvious a method of getting a man away from places and people and circumstances which are irritating and obnoxious, and of removing him out of sight for a while, that it is an expedient adopted with far more frequency than wisdom. We have ourselves known most disastrous results from it. Men threatened with lunacy who have been sent on their travels we have known to commit suicide in foreign hotels and in mountain solitudes, to have outbursts of raving Mania in railway stations, and in city streets, and to get into the hands of the police for outrageous conduct. The friends of such a man who send him on his travels without efficient watch and ward, commit a flagrant breach of private responsibility and of public decorum. As far as cure is concerned they might as well throw their friend from the top of a house because a lunatic is said to have been so cured by pitching accidentally on the right cranial spot. What they do, and know that they do, is to hide their friend for a while from the eyes of their own immediate public and to postpone the responsibility of taking proper steps for his care and treatment.

A threatened lunatic, or one whom we may call a developing lunatic, ought not to be sent to travel in foreign parts without guarantees that proper care and efficient watch and ward should be provided for him. If he be attended by a medical man instructed in his case, by a trustworthy body-servant and a good courier, and has "put money in his purse," there is no reason why the efficacy of foreign travel should not be tried under proper advice; but to allow sensitive relatives to seclude from the public eye a man on or over the threshold of Insanity, by sending him on the grand tour, without these safeguards, is to invalidate the whole spirit of the lunacy laws which are framed to protect Englishmen who on account of mental infirmity cannot take care of themselves.

Travel within the four seas is quite a different measure, and with due provision for care and protection, for the right admixture of rest and fatigue, of change and repose, is a very fair and proper thing to try, not only in threatened yet undeveloped Insanity, but also in many chronic conditions of mental disease, and especially also in the state of convalescence.

Of Marriage it may be said that the celibacy of the insane is the prophylaxis of Insanity in the race, and although a well chosen mate and a happy marriage may sometimes postpone or even prevent the development of Insanity in the individual, still no medical man having regard to the health of the community or even to that of the family will possibly feel himself justified in recommending the marriage of any persons of either sex in whom the insane diathesis is well marked. The lottery of marriage is so great and the chances of happiness in it so uncertain, that for any one threatened with Insanity to embark in it must ever be a most perilous enterprise, even for the individual, but to the children and grandchildren and the race the results are not uncertain. They are sure to be calamitous. It is thus that the seeds of mental disease and of moral evil are sown broadcast through the land; and other nerve defects and diseases are multiplied, epilepsies, catalepsies, paralepsies, varied with imbecilities and idiocies and suicidal and other propensities and dispositions leading to all manner of vice and crime. The marriage of threatened lunatics is a veritable Pandora's box of physical and moral evil.

Treatment at the outbreak.—In our former editions we have written of treatment perhaps too exclusively from the stand-point which we occupied as the physician of a public asylum. We wish now to fill up our sketch of treatment as it is applicable to patients of the upper classes who are usually treated in private homes, or in private asylums. In the labourer and artificer class the lunatic is so far fortunate that, living from hand to mouth under the sweat of his brow, the outbreak of Insanity generally pauperises him at once and throws the responsibility of his care and treatment upon the public authorities. The law of the land is admirably designed for his protection and welfare, and, if it be really carried out, the care and proper treatment of the pauper lunatic will be all that humanity and science can desire. He will be placed forthwith in one of the county asylums, a class of institutions of which our own profession and the community at large have every reason to be abundantly proud, and he will there receive care and treatment which his superiors in rank and wealth may well regard with jealous envy. His only danger will be in the chance of being shunted into the dismal and dreary neglect of the union house, where the guardians of the poor rates will regard him with an eye of calculating parsimony. If he be somewhat violent and dangerous, then so much the better

for him; if he be tranquil and melancholic so much the worse, for he will be the further removed from the chances of curative treatment. Even his cure might not be regarded as an unmitigated advantage if it should cost too much. Not long ago we were examining a union house, no worse than others, in company with the Guardians, and observing a recent and as we thought curable lunatic in detention there, we expostulated and advised that he should be sent forthwith to the asylum for treatment, but the Deputy Chairman of the Guardians remarked to us that the man was old and infirm and that even if he were cured he would have to be maintained out of the rates. Being a used-up labourer he was not worth the expense of being cured. As a rule, pauper lunatics are sent to the asylum through the instrumentality of the relieving officer, who interposes any amount of delay which he may think fit; the statute indeed fixes a penalty for his delay beyond a certain limit but we never yet heard of an instance in which it was inflicted. It would be well if some speedy and practical appeal could be made to an independent authority.

However, once in a county asylum, the treatment of the lunatic is, as a rule, admirable. Asylums do indeed differ greatly from each other in the energy and liberality of their management, and more especially in the circumstance whether or not their wards are overcrowded with inmates. But as a great and general rule, the labourer or artisan whose means of support are suddenly interrupted by the intervention of Insanity, and who cannot be detained, much less treated in his own narrow domicile, is provided in the county asylum with a liberal, skilful, and disinterested treatment which gives him the very best chance of recovery, and which, if that event does not happen, provides him with a mode of living as free from the miseries of his condition as his circumstances will permit. On this latter point, however, we shall have something further to add in our observations on cottage treatment.

But how, on the outbreak of Insanity, should a patient be treated who is not a pauper either actually or constructively? This also will depend very much not only upon the condition but upon the means of the lunatic. Really efficient and satisfactory treatment in a private house is very costly, and beyond the means of those who are not positively wealthy. Removal from the patient's own home is in almost all cases not only advisable but imperative in acute outbreaks; and with persons of small or moderate means,

removal either to a private asylum or to one of those excellent institutions, the Hospitals for the Insane of the middle classes, is undoubtedly the wisest and most prudent step to be taken at once. All the means and appliances of skilful care and treatment may here be procured at a reasonable cost.

To provide a separate private residence with an establishment of servants, a skilled attendant and proper medical care, will cost at least six or seven hundred pounds a year, while the most efficient care and treatment in a Hospital for the Insane can be procured for one tenth part of that sum. The question of expense therefore limits efficient treatment of the great majority of recent cases to institutions. If the patient is possessed of large means, there is no sufficient reason why the trial of private treatment should not be made. A retired and suitable residence may be procured, a suite of rooms made safe, one or more skilled attendants engaged, even a resident medical man be provided and any required amount of consulting professional attention. In acute cases of Mania and Melancholia, in which the patient is so much occupied by delusions and insane emotions, that he does not know whether he is at home or elsewhere, such a method of treatment is frequently adopted with successful results, and the social advantage of not having been treated in an asylum, frequently imaginary, but sometimes very real, is attained.

The great disadvantages of private treatment are, first, that it soon ceases to be curative. If, when the acute stage of Mania or Melancholia subsides, and the patient does not then recover, he should continue to be treated in a private house, he would not enjoy by any means the same probabilities of cure as he would do if he were placed in a skilfully conducted asylum. He would in fact be far more liable to pass into the hopeless condition of chronic incurability.

The other great disadvantage of private treatment is the facility with which it may be abused. A lunatic under treatment in his own house, or in a house of which the ostensible tenant is either the patient himself, or his wife, or son, or other relative, not keeping it in any colorable sense "for profit," is under no official inspection, and even if he were in a private house or lodgings wherein he is really or constructively "kept for profit," and thus becomes "a single patient" under the inspection of the Commissioners in Lunacy, the one annual inspection to which his treatment

then becomes subjected cannot be considered a sufficient safeguard against ill-treatment of various kinds, the most common and constantly recurring form of which is the absence of all effort not merely to cure but to comfort and relieve, and to make life as cheerful and bearable as under the circumstances of the disease it is possible to do. That all this is done in a great number of instances is well known, but in others it is left undone; nor, looking to the indolence and selfishness of mankind, can it be reasonably expected that it should be done in all cases, unless some compulsion can be applied less uncertain and unwieldy than a criminal information for cruelty and neglect.

With the exception, therefore, above noted, of an acute outbreak of Mania or Melancholia in a person with considerable pecuniary resources, a recent and hopeful case of Insanity ought to be placed for curative treatment in an asylum, and then comes to the medical adviser and to the friends the portentous question of what asylum, for these institutions differ from each other more than we shall venture to describe or depict. We shall, however, lay down a few general rules which may guide in the choice of an asylum, and at the same time indicate some of the means and methods by which, as we think, curative treatment ought to be pursued in an asylum.

Choice of Asylum.—The asylum* should contain a considerable number of inmates. Some small private asylums with few inmates are admirably adapted for the continued residence of chronic lunatics needing more care at less cost than can be provided in private dwellings. Such asylums are excellent for the care and detention of chronic lunatics who are not fit for the enjoyment of domestic life, but they do not and cannot offer the means and appliances for the curative treatment of recent cases. For these an asylum containing at least thirty or forty patients should be chosen, and one containing four or five times that number should be preferred. A certain minimum number of fellow-patients is needful to establish that system of method and discipline which form a great part of the curative influence of asylum treatment. Dr. Blandford's observations on this subject in his excellent Lectures are much to the purpose:

* We use the word asylum in these pages in its ordinary colloquial sense, intending it to include asylums for the middle classes or hospitals for the insane, and private asylums or licensed houses.

"We notice a morbid and intense *philautia*, an extreme concentration of the whole thought and ideas on self, and on all that concerns self: whether the individual's feelings are those of elation and self-satisfaction or of depression, whether he thinks himself the greatest man in the world or the most miserable, he is constantly absorbed in the contemplation of self, and thinks that the whole world has its attention directed to him. Now, when such a being is at home, he generally contrives to make himself the centre and focus of every one's regard; and if away from home, in a lodging or a family, he may be able to do the same thing; nay, in the majority of cases, this cannot fail to be the case, for the arrangements of the household must more or less depend upon the presence of such an inmate; but place him in an asylum of fifty patients and he occupies at once only the fiftieth part of the attention of those about him. He is given to understand that the establishment goes on just the same whether he is there or not, but that being there, he must conform to the rules, his going away depending to a considerable extent on his own efforts, and his observance of the precepts and advice which he receives. He is encouraged to follow the latter by the approval of those about him, whose approval he ought to value; he is dissuaded or even prevented from doing that which he ought not. He is indulged with a certain amount of liberty according as he shows that he is fit to enjoy it * * * * and this liberty he forfeits if he abuses it, and strict surveillance and watching are exercised until he shows that he can control himself" ('Insanity and its Treatment,' p. 365).

The vast importance of this influence upon the insane mind we have always insisted upon. Orderly conduct and obedience to conventional rule, though it be but that of an asylum, is the first step towards reasonable processes of thought and healthy states of emotion, and the lunatic placed in an asylum very constantly falls into the order and rule of the house as a boy, rude and unmanageable at home, falls into the order and rule of a great school.

An additional and most important advantage obtained in an asylum of some magnitude is that it renders classification possible. The only classification which is carried out in many small asylums is that of wealth.

The patients who pay the most money get the best rooms, and those of small means get the worst. The tranquil, the timid, and the depressed are too often associated in the same small sitting rooms with the talkative, the noisy, the excited and the restless, if their payments are insufficient to purchase more ample accommodation; and yet it is known that a careful classification of the patients is one of the fundamental elements of successful asylum treatment.

Another most important point in the selection of an asylum is that the person who rules the house should be resident in it. We do not say the proprietor, for in licensed houses this person frequently is not the ruler of the house, neither ought he to be if he

is not a medical man, except in the case of the small domestic asylums. In all asylums fit for treatment, the ruler of the house must be a medical man, and, undoubtedly, he ought to be resident. The moral treatment of the insane so immediately depends upon personal authority, that it is absurd to suppose it can be adequately carried out under the faint reflection of power which an absent physician thinks fit to cast upon some unimportant deputy, whose subordinate position is always thoroughly well known both to patients and attendants, a knowledge which acts perniciously in various directions upon the success of treatment.

In all public asylums and hospitals for the insane, the ruler of the house is always at the present day a resident medical man, and in all large private asylums the same arrangement ought to be insisted upon. The power of holding in confinement in his house a number of insane persons surely ought only to be entrusted to a medical man who will reside in that house, or to some person, be he in the medical profession or not, who will confide the whole power of ruling that house to a competent medical resident.

Another essential point in the choice of an asylum is that the attendants should not only be skilful and trustworthy and under the constant direction and control of the physician, but that they should be in continuous charge of the insane inmates. We cannot imagine a system more immediately tending to the disadvantage of patients under treatment for mental disease, than that which prevails in some private asylums of maintaining a public traffic in attendants. Under this system a patient has no sooner become accustomed to an attendant and has learned somewhat to trust in him, and an attendant has no sooner learnt somewhat of his patient and has acquired a salutary influence over him, than the bond between them is likely to be broken by the attendant being "sent out on call" to some distant private patient under the treatment of some other medical man, the proprietor of the asylum sharing the attendant's wages. We have known a private asylum of good repute in which this traffic in attendants was so great, that at times there would be nearly as many attendants in the institution as there were patients, and at other times when *calls* had been numerous, the attendants would be so few as to be quite inadequate to the proper care and control of the patients. The care and treatment of the patients cannot be equable and satisfactory when this trade

in attendants is carried on by the proprietor, by which his agents and instruments of care and control are liable to constant change, being sent away on a roster of *call* like postboys from the stable-yard of an hotel. We object to the system in this place, because we believe it to be pernicious to treatment, without referring to the question as to whether it is honorable for the proprietors of asylums to derive a profit by taking from servants who are no longer under their supervision a large proportion, amounting to from 30 to 40 per cent., of their wages. We know attendants upon lunatics living in domestic privacy who have thus paid hundreds of pounds out of their wages to asylum proprietors who have never seen the patients at all, and have not seen the attendants for years, nor heard from them except to receive the annual tribute.

It should not be lost sight of that an asylum is and must be to a certain extent a prison, and that if its inmates are not susceptible of cure, they ought to be provided with the means of living in it as happily as possible in confinement; and therefore it should be wholesome, spacious, and cheerful. The locality should be good, the house well adapted in its arrangements to its special purpose, and the surrounding grounds ample and attractive. The locality should not be within the crowded and dingy suburbs of a large town, whose depressing influences of outlook, atmosphere, and associations cannot fail to have a bad effect on the feeble health and susceptible nerves of many insane persons, neither should it be in so remote a part of the country as to be inconveniently distant from the amusements, interests, and conveniences of towns, or so ill-placed that friends cannot obtain ready access, or that convalescing or intermitting cases should feel residence in it needlessly dreary and monotonous. It should be on a porous and well-drained soil and be well supplied with good water. The situation, in other words, should be cheerful, healthy, and convenient.

Without entering upon details or descriptions as to architectural form and arrangements, the house itself should be spacious, airy, well lighted, well furnished, not overcrowded, and well provided with baths, lavatories and water closets, and with billiards and other means of recreation. We have too often seen the inmates of private asylums for the wealthy classes so crowded together in sitting rooms that there was not a chair or a seat on a sofa available for any new comer. How can curative treatment be expected, or the comfort and welfare of the incurable be provided

for, under such conditions? The limit of capacity in pauper asylums may fairly be estimated by the minimum of superficial and cubical space which is thoroughly consistent with health, but the asylum arrangements for the wealthy ought to be conducted on different principles, and a gentleman or lady ought to have some approximation to the house space in which he or she has been accustomed to move; he ought not to be liable to have the possession of a chair constantly disputed, or to be unable to move about his sitting-room without jostling his fellow-patients. Many of the private asylums, and especially the metropolitan ones, appear to us to be licensed for the reception of a far greater number of inmates than they are capable of containing under conditions of comfort and wellbeing, the defect being most apparent in the sitting-rooms, which are often quite inadequate to the bedroom accommodation, which is generally taken as the standard of the house capacity. And this defect is thus rendered more grave by the absence of the wide corridors in private asylums which afford so much foot space in almost all public institutions, and which admit the possibility of walking about with some freedom within doors. It is a defect which might be remedied to some extent by the provision of spacious recreation rooms, or even of covered spaces in which patients might freely walk about during inclement weather. As a rule not half enough is done in our private asylums to provide the mere bodily exercise for their inmates which is needful for their health and comfort.

But supposing the asylum, with its means and appliances, to be considered satisfactory, the most important question remains of how it is worked. An asylum has justly been described as an instrument in the hands of the psychological physician. The tool may be and often is very imperfect, but is the workman good? According to our observation and belief, the workman as a rule is excellent, and by personal qualities frequently makes up to a great extent for the inadequacy of his means. The asylum physician ought to know his business practically and scientifically; he ought to have firmness and gentleness, the hand of iron in the velvet glove; he ought to be both loved and respected, to be cheerful and friendly, and at the same time a master in his own house, and capable of maintaining the domestic law. If so, he will insist upon punctuality, order, and method; he will promote good-will and amiable relations between the inmates; he will watch for and repress petty tyranny and in-

justice; he will engage good attendants and servants, remunerate them fairly, treat them justly, and instruct and supervise them patiently in the discharge of their trying duties; he will ever set before his mind, and endeavour to attain to, the prime object to which he has devoted his life, namely, to effect the recovery of the insane persons committed to his care, and if that be impossible, then to effect their improvement so far as that is possible, and to provide for their comfort and their greatest attainable happiness.

It is nowhere difficult in these times to find a physician of really scientific ability who has devoted himself to the above duties and who carries them out carefully and conscientiously, and it ought not to be difficult to discriminate between such a man and one who is a shepherd whose only thought is how close he can shear, one to whom the misery of those confided to his care is very secondary to his own profit, one who regrets the recovery of the patient because his discharge is a diminution of income. Either the curative treatment or the comfortable detention of the insane would be very unsafe in the hands of such a man.

Attendants for the Insane are more than nurses of the sick. They keep watch and guard, are the instruments of order and discipline, and to a great extent the active agents of moral treatment. To their proper selection, training, and guidance, the success of treatment whether curative or palliative, security from harm and accident, and the general comfort and wellbeing of the lunatic, are in great measure due. The requirements we make upon their patience, endurance, temper, and health, are so great, that their services when thoroughly good are wellnigh invaluable. In public institutions, these are generally trained from an early period of adult life to their difficult duties. To begin with, they ought to possess robust health, good intelligence, courage, fair education, conscientiousness, and what we will venture to call an open temper in contradistinction to mere insipid amiability, or moroseness, or phlegmatic apathy. Get a man from the tail of the plough, or a housemaid, with these qualities, and it needs but careful training and right example to make a good attendant. As a rule men who have been educated in a different school make bad attendants. They have to unlearn so much, and so it happens that old soldiers, old policemen, butlers, game-keepers, &c., are very poor material for this work. Men of better social rank and of higher education are generally

failures, from the simple reason that they have generally failed already in a line of life more consonant with the proper ambition of their station in consequence of some defect in temper or character. Persons of better social position and education than these we have here indicated are often extremely useful as companions to the insane, but they rarely make good attendants. It cannot be expected that you will often get much good out of a gentleman who will demean himself by consenting to occupy a *quasi* menial position, and to associate with other attendants taken from what are called the labouring classes. An old hunter rarely makes a good plough horse.

A system which we think might be tried with every prospect of success in large private asylums is the establishment of two classes of attendants, namely, a class of gentlemen or lady attendants and a sub-class of menial attendants. This plan if properly carried out would probably work with the same very satisfactory results as the nursing in some of our hospitals, especially in the University and King's College Hospitals, where the higher and what we may call the æsthetic duties are performed by a sisterhood of ladies, and the menial duties by ordinary nurses. The attendance in some foreign asylums by Sisters of Charity has indeed not been what physicians to asylums would willingly see imitated in this country, but the great difficulty met with abroad would not be likely to be repeated here, namely, that this most useful sisterhood has so much power that it frequently clashes with the medical authorities. At all events we know that no difficulty of this kind has been met with in the admirably managed hospitals above referred to.

The routine duties of an attendant in an asylum need scarcely be commented upon. Industry, punctuality, sobriety, cleanliness, we must assume, are taught by the example and precept of those whom he joins as a fellow-worker. But how is the man or woman to be taught to influence the minds of patients beneficially, to control the rude, to soothe the restless, comfort the desponding, lead the perverse, and generally become in the hands of his superior, a valuable instrument of moral management? That all this influence can be exerted over educated and cultivated persons by those who are comparatively uneducated is a common fact which could scarcely have been anticipated by forethought. When we have observed it, we come to reflect upon the great force of character which is often possessed by the common people and upon

their extreme shrewdness in estimating the characters of others. Education may not always improve this power. The man whose thoughts are bent upon the facts of science, or the theories of politics or theology, often has little thought to spare upon the manifestations of mind in his fellow-men who surround him. The historian who can analyse the character of Alcibiades may be quite unable to form a just estimate of that of his doctor, his lawyer or his cook; but common people who walk in constant contact and struggle with the common everyday world learn to appreciate character as a useful means of existence. The boy who learns his declensions under a domestic tutor is innocent of human nature and of life-craft compared with the city Arab, and even the young curate, full of Greek, mathematics, and theories of vice and virtue, is often practically ignorant of these matters compared with the rude louts whom he admonishes and instructs. The common people then, in this country, at least, form not so bad a material as might have been expected for the human instruments which the mental physician is bound to employ in the delicate duties of gaining moral influence over the insane.

The two great mental qualities to cultivate in attendants are observation and kindness. A good attendant ought to be an observer to begin with, to have the natural power of remarking differences between one patient and another, and in the same patient at different times; keen to notice circumstances which distress and those which soothe, words which irritate and those which tranquillise, apt to remark all signs of disturbance and danger and all means of influence. By constant practice a very high and most useful development of this essential quality is very frequently gained.

An attendant who cannot observe is about as useful in an asylum as a blind keeper would be in a game preserve. Still more important is active kindliness of disposition, productive of patience in the endurance of trouble and annoyance, and an ever-present inclination to soothe irritation and relieve distress. Mere apathetic good humour is a negative quality, if not a disadvantage, an appearance of virtue under the cloak of which active and beneficial work may be neglected. On the other hand an attendant should be taught not to be fussy towards his charge, but to gain and maintain influence by steady and continuous care and kindness. He should be cheerful without being pert, and with

gentlemen patients should be respectful without being obsequious. His demeanour will necessarily vary greatly according to the social position of his charge. An old and trusted attendant in a county asylum will very properly be far more authoritative towards the pauper lunatics under his charge than could possibly be permitted to any attendant on gentlemen. Still even to gentlemen orders must be given and obeyed, though the manner of communicating them as requests, or as the directions emanating from the superior authority, will make all the difference between right and wrong manners.

The attendant has frequently to protect one patient from another, or to guard against mischievous and dangerous conduct; and, in a variety of circumstances, he is liable to be called upon not only to insist in the most positive manner, but even to intervene with physical force. When this latter alternative is inevitable, the golden rule of asylum management is that the attendant should never be held to be justified in engaging in a single-handed struggle with a lunatic, unless the circumstances are so sudden that assistance could not have been called. He may be suddenly attacked by a lunatic or have to defend another patient single-handed, or suddenly to interrupt conduct dangerous to the lunatic himself; but where persuasion has been possible force should never be employed except by two or more attendants in such a manner as to make resistance on the part of the lunatic hopelessly futile.

Attendants should be taught not to refer to delusions, and, what is more difficult, not to defer to them. The latter is not always possible, though, owing to the singular inconsistence of the insane, it is far less difficult to do so than might have been expected. The Emperor of the World will allow himself to be addressed as Mr. Brown, and the Deity will attend family prayers. The art of firmly and skilfully ignoring delusions is an important part of treatment which needs to be very carefully inculcated upon attendants, since it would constantly save them much trouble to act in just the opposite manner, by which they would very frequently barter the permanent welfare and, perhaps, the recovery of the patient against transitory acquiescence and tranquillity. Not that the rule is without exceptions, but these ought to be deliberately determined by the physician who may think the present state of the patient's health too precarious to justify any resistance to a predominant delusion,

or, when a delusion is hopelessly fixed and the patient obviously incurable, may think it harmless and not worth any passing discomfort, and who may, therefore, in these cases direct his attendants to gratify the indulgence of the insane idea. But, as a rule, attendants must be most carefully instructed neither to elicit the expression of delusions nor to dispute them when expressed, and also not by word or deed to acknowledge to the patients that they believe in them. One of the best tests of the value of an attendant is the tact with which he will carry out this principle of treatment.

Another most important line of an attendant's duty is that of cheering the depressed, and a heavy and depressing duty it often is, and in the discharge of it the attendant should be well furnished with natural cheerfulness of disposition. Nothing is so contagious as emotion; and the natural unforced cheerfulness of a constant companion is often the best medicine we can administer to the fearful, the depressed, and the desponding.

Cheerfulness, however, is a quality in which we cannot give attendants much instruction. We must take and use it as a natural product, and if we are wise we shall value and preserve it. What we mean by cheerfulness in an attendant is not mirth and "laughter holding both his sides," but a bright happy temper, capable of sympathising with the unhappy, and of longing to impart and of really communicating to a greater or less extent its own frame of mind, call it sense, or thought, or emotion, for it is all three. The sun is down and the trees are black to the eyes of the melancholiac, but a ray of imparted cheerfulness will make them green again, if but for a moment. Let the impression be repeated, and the daylight colour of healthy perception will gradually return.

As a potent means of leaving delusions on one side so that they may die out, of relieving depression and of soothing irritability, attendants have in their hands, to be well or ill used, the two great resources of occupation and recreation. These may be directed by the physician, but they can only be carried out by the attendants, and the manner in which they acquit themselves in this matter is a test of their own worth, and of the curative powers of the establishment to which they belong. In old parlance a lunatic was often called a "distracted" person, drawn apart from healthy thought, and the main thing wanted in his treatment is distraction, in the contrary sense, to turn him from his morbid emotions

and ideas into the old mental courses, and for this purpose no other means are so powerful as mental and bodily occupation, as employments or subjects of interest diverse to or aside from the course of causes of delusion or morbid feeling. To engage and interest the patient's attention, to induce him to work or to lead him to amuse himself, is the difficult but most important task of the attendant, requiring all his tact, and temper, and cheerfulness, and industry. And the obvious condition of an asylum, in which these duties are well discharged, is as different from the dismal atmosphere of apathy, indolence and neglect, which pervades other institutions, that it would hardly occur even to an uninstructed observer that they were ostensibly devoted to the same purpose. Neither are they in fact, for there are asylums in which detention and profit are the main objects, and there are many others in which the cure, the care, and the comfort of the inmates are persistently and conscientiously pursued.

To promote and preserve tranquillity, peace and goodwill among the patients towards each other and towards the attendants themselves is another great object which the latter have constantly to keep in view—to separate the tranquil from the boisterous, the timid from the rude and violent, to keep apart those who have personal antipathies, to foresee and forestall the beginnings of rancour and strife, to be guardians of domestic peace and promoters of goodwill, such are not the least of the duties of these valuable assistants in the treatment of the insane. Another duty somewhat separate is that of *Sick Nursing*. The insane are liable to all kinds of accident and illness and to some which are more or less special to them. The management of General Paralysis during its latter stages, when the power of deglutition is almost lost, when the sphincters are relaxed and the attention to natural wants abolished, when slight pressure produces bed-sores, all this needs the most tender and careful and cleanly nursing. The mental and physical peculiarities of sick lunatics call for special endowments on the part of those who can nurse them in a satisfactory manner, and a man or woman who would make a good general attendant is not always a good attendant in the infirmary or the sick room, where the duties are different, difficult, and peculiar. If a good nurse is a treasure to the sick who are sane, how much more so when physical disease is complicated by the restlessness and waywardness, the loss of attention to natural wants, and of

the sense of propriety and of danger, which so often exist among the patients in the infirmary of an asylum.

It will be seen from the whole of the above remarks the high importance which we attach to assistance we receive from the immediate attendants upon the insane in conducting that which is called—

The Moral Treatment of the Insane.—No term has of late years been more profusely and empirically employed, and none has been less understood, than "the moral treatment of Insanity." To remove the causes of cerebral excitement is not moral treatment; and even to be kind and gentle in word and deed to the insane cannot rightly be called moral, but physiological treatment. Thus, Dr. Conolly says, "We seek a mild air for the consumptive, and place the asthmatic in an air which does not irritate him, and keep a patient with heart disease on level ground; and on the same prophylactic and curative principles, we must study to remove from an insane person every influence that can further excite his brain, and to surround him with such as, acting soothingly on both body and mind, may favour the brain's rest, and promote the recovery of its normal action" ('The Treatment of the Insane without Mechanical Restraints,' p. 55). The removal, therefore, of sources of cerebral irritation and passionate excitement, is not moral but physiological treatment. It may be easy to say what is not moral treatment, but it is by no means so easy for the physician of an English asylum to say in what this treatment really does consist. If he seeks for authorities in the writings of eminent Continental alienists, he finds that with them it consists in punishment. The system, described by Pinel, of the monks* who drilled the insane, as the sergeants of the great Frederick drilled the heroes who conquered Germany, is essentially the same as that of Leuret and Ideler; the continuous but more painful blow of a torrent of water being substituted for a shower of blows from the stick. If the English physician looks to the writings of his countrymen, for some description of that moral treatment with which they boast to have replaced the barbarisms of mechanical restraint, he finds little more than vague generalities. The most

* "Il le prévenoit que son obstination dans ses écarts seroit punie le lendemain de dix coups de nerf de bœuf. L'exécution de l'arrêt était toujours ponctuelle, et s'il étoit nécessaire, on la renouveloit même à plusieurs reprises."—*L'Aliénation Mentale*, p. 312.

inflexible firmness must be combined with never-failing kindness and gentleness and sympathy; the patient is to be taught habitual self-control, by habitual indulgence; in fact, the alienist physician is to be a veritable lion, but, like the notable Bottom in that character, he is to "roar you as gentle as a sucking dove."

In Dr. Conolly's history of the abolition of mechanical restraints, a paragraph occurs, which indicates the importance he attaches to the influence of mind upon mind, in the treatment of the insane:

"Among the improvements yet to be made in the practical department of public asylums, arrangements for what may be called an *individualised* treatment are particularly required. None but those daily familiar with the events of asylums can duly appreciate the great effects of such treatment in special cases. After the first improvement in patients received into the best asylums, some will remain stationary for a length of time, without the special attention of an intelligent and watchful attendant, whose duties are almost exclusively confined to such cases. For want of such especial care, the signs of improvement may fade away, and the chance of recovery be lost. Patients who have remained listless and unimproving for months, and who have seemed falling into a state of apathy or imbecility, or even verging on the hopeless state of dementia—in a word, in which they received little personal notice or attention—are seen, in some encouraging instances, when happily transferred to attendants who have more disposition to attend to them, or better opportunities of so doing, or greater aptitude for the task, to awaken from their torpor, to become animated, active, and even industrious. The countenance reassumes intelligent and cheerful expression; a disposition to converse returns; all the mental faculties appear gradually to reacquire capability of exercise; and in some cases, entire amendment follows."—(p. 64.)

Now, what is this *individualised* treatment but the influence of a sane mind peculiarly apt to address itself beneficially to the insane mind, that is, moral treatment, or more strictly speaking intellectual and emotional treatment? The existence, therefore, of such a thing is recognised as of infinite importance in certain stages of Insanity; and as something in addition, and supplemental to, the ordinary kindness and physiological abstraction of excitement which too frequently constitute the whole of the modern English system of treatment.

Any officer, or attendant, who is successful in the management of the insane, who daily impresses upon them the influences of his own character to their improvement, undoubtedly practises moral treatment; often, indeed, as M. Jourdan spoke prose—without knowing it, or at least without knowing the nature of the good he does, or the rationale of its action.

That a physical disease caused by a moral emotion is suscep-

tible of cure by an opposing emotion is an unquestionable fact in other regions of nosology than that devoted to the neuroses. Dyspepsia caused by anxiety is cured by prosperity and content; the dysentery of armies waits upon the depression of defeat, and is cured by the breath of victory. The opposite of that which influences any part of an organ to its detriment, is likely to act upon the abnormal state so produced with beneficial effect. Therefore, moral emotions opposed to those which cause Insanity are likely to promote its cure. The proposition may be still wider. The causation of Insanity proves the vast influence of moral agencies upon the cerebral organism. This influence, if it can be brought to bear, must possess commensurate power as a curative resource, even when the exciting causes are unknown, or known to be physical. Pinel classifies the passions, as causes of Insanity, into the spasmodic, the depressing, and the expansive or gay; but nothing is more certain than that an expansive passion may produce Melancholia; or that a spasmodic one—jealousy, for instance—may produce the merriest variety of Mania.

Melancholia from depressing moral causes often changes into gay Mania, and the reverse. It is evident, therefore, that a knowledge of the moral cause of any particular instance of Insanity will not always afford a clue to the emotions it is desirable to act upon, with a view to treatment. The actual condition of the patient's mind must be made the object of study with this view, and not the cause of that condition, which is so important a consideration in physical treatment. To appreciate that condition is the first step to success in acting upon it; and a faculty of clear insight into character is the primary requisite of character in him who would take a useful personal share in the moral treatment of the insane. A physician may be very scientific, and skilful in the use of the ordinary weapons of physic, and yet be helpless as a child in the power of influencing the feelings of others in any determinate direction; as a clergyman may be a learned theologian, but powerless as a pastor; as a schoolmaster may be full of pedantic lore, and yet practically as imbecile as Dominie Sampson. A faculty of seeing that which is passing in the minds of men is the first requisite of moral power and discipline, whether in asylums, schools, parishes, or elsewhere. Add to this a firm will, the faculity of self-control, a sympathising distress at moral pain, a strong desire to remove it, and that fascinating, biologising

power is elicited, which enables men to domineer for good purposes over the minds of others. Without these qualities, no one can be personally successful in the moral treatment of the insane. A mere amiable and feeble, or a coarse and uncontrollable mind, alike fail in this delicate duty; and if the possessor of such a mental constitution has the wisdom to estimate this duty at its full value, he must perform it vicariously. That so much of it may be so well done vicariously by ordinary attendants is a most happy circumstance for mental sufferers, and proves that the possession, at least in a moderate degree, of the qualities indicated, are consistent with a defective education and a lowly social rank.

In the first stages of acute Insanity, all attempts at moral treatment are futile. That which, at this period, is called moral, is purely physiological—namely, removal of causes of cerebral excitement, and the arrangement of circumstances so as to secure as far as possible, a state of cerebral repose. To this must be attributed the good influence of kindness and of the expression of sympathy, which is not always unfelt, even amidst the most acute delirium; as it is certain, on the other hand that the remembrance of harsh behaviour and needless restraint, of whatever kind, is often the cause of deep resentment, and even the source of new phases of delusion, at a period when the patient appears to be wholly occupied with trains of delusive thought and perverted emotion, having no apparent reference to the persons or things which surround him. Some authors affirm that patients retain a faithful impression of all the treatment they have received during the most acute attack; others maintain the contrary. For instance:—M. Brierre de Boismont says, "Les aliénés et les délirantes sont très crèdules et les amuse comme les enfants; leur mémoire est excessivement oublieuse." In truth, both these opinions appear to be correct, in different cases. In questioning convalescents, we have found that, in many instances, the acute stages of disorder have left a perfect blank in the memory; in others, the most painful and minute recollection of the past period of suffering has been retained. When patients emerge from the first outburst of the storm of Mania into the comparatively tranquil condition, in which they can appreciate, to some degree, the nature of persons and things—or when the primary attack has been such as to permit such appreciation from the first, the influence of moral and intellectual agencies becomes felt.

The discipline of an asylum, and the moral treatment of its inmates, consist of means which, to the inexperienced observer, are likely to appear feeble and ineffectual, because the patients are, or ought to be, under constant surveillance, and wilful breaches of discipline cannot or ought not ever to be unobserved. Jeremy Bentham used to maintain, that if a thief about to pick a pocket were perfectly certain that he would be detected and compelled to restore the whole of the property stolen, with no other punishment, he would certainly not take the trouble to commit the theft. Now, although the many varieties of misconduct to which the insane are prone are not guided by the calculating selfishness of the sane thief, although to a great extent they are manifestations of perverted emotion or morbid instinct, the principle of the preventive power of watchfulness applies to them; and hence it is, that under good and careful discipline, the need of repressive measures is comparatively very slight. Watchfulness replaces severity. The old maxim, *obsta principiis,* prevents to a great extent those violent and dangerous outbursts of conduct which occur under negligent treatment, and which, for the protection of the sufferer and those around him, necessitate strenuous measures of repression or restraint. Hence it occurs that, under watchful and skilful management, all that part of the wrong conduct of the insane which is under their control becomes controllable by slight means. This is especially the case in asylums of some magnitude, on account of the influence of rule and habit upon the old inmates, and that of example upon the new comers. The influence of example in enforcing obedience to law has a wonderful potency. The lawless youth who has been the terror of his native village, becomes obedient and docile when he enlists, often without suffering any punishment, and solely because he finds himself in the midst of an orderly system. The same influence tells forcibly upon the new inmate of an asylum: he may resist at first, and his mouth may be as hard as that of an unbroken colt; but after a while, and without any harshness, he will often answer to the slightest indications of the rein of discipline.

In the moral treatment of the insane, it is of the utmost importance to discriminate correctly between that part of wrong conduct which patients are able and that which they are unable to control. As a rule, that which they are able to control is controllable by means very far from being severe, either in appear-

ance or in character. On the other hand, that part of their conduct which they are unable to control, and which is neither more nor less than the expression of pathological states of the brain, includes by far the greater part of the most violent and dangerous manifestations of Insanity.

This conduct must be resisted solely by physiological and pharmaceutical means; and direct moral treatment is as much out of place in opposing it as in inflammation of the heart, or of any other viscus. Clinical experience alone gives the power of distinguishing between the controllable wrong conduct, which is amenable to moral influences, and that violence utterly beyond the command of the will, which yields only to physiological remedies. As a rule, however, the alienist physician should make it a point to regard, under the latter light, all those aberrations of conduct which occur in the first access of the disorder, and which are accompanied by any appreciable signs of physical disturbance; and if he sees fit to combine any moral influences with his physical treatment, he should take especial care that they are not of a nature to cause pain or annoyance, and so to give birth to antipathies and resentments which may stand greatly in the way of efficient moral treatment when the proper time for its use arrives.

In the chronic forms of Insanity, the accompanying symptoms of physical disorder, and the obstinacy and excess of moral perturbation, will after some experience enable the physician to make the above diagnosis of the character of insane aberrations of conduct, without which the application of any measures of moral treatment is empirical and dangerous. Thus he will learn, that the violence of epileptic Mania is beyond the reach of any kind of moral control, and justifies only measures of precaution and protection; while that of Mania impressed with the hysterical type of disease, is greatly under the influence of judicious control.

To weaken the hold of perverted, and effect the establishment of healthy emotion, is an indication of moral treatment to a great extent fulfilled by the repression of wrong conduct. Action is the outward expression of feeling; and the laws of mind are such, that many feelings derive increased vigour from their outward manifestation, and suffer diminution of their force by its suppression. This, at least, is true of habitual states of emotion, although it is not correct when applied to accidental ones; a sudden grief

may be the deeper, that finds not vent in tears; and pent-up anger caused by an injury that cannot openly be resented, is notoriously unrelenting.

But nothing is more certain in practical ethics, than that any habitual state of feeling is fostered and strengthened by permitting its free expression in outward act. The blustering bully becomes more and more passionate by every act of violence; and the sentimental woman, who indulges herself in the outpouring of small sorrows, loses all epidermis of character, and becomes one of the most wretched of sufferers. Hence the repression of the manifestation of habitual feeling succeeds in preventing the growth of such feeling and gradually weakens its force. The tendency to sudden excitement or anger, to pride, and the various forms of selfishness which constitute no inconsiderable part of the perverted emotions of the insane, is repressed by means taken to check the irregularities of conduct of which these feelings are the source. But the indication of moral treatment now under consideration is of wider import than the mere repression of wrong conduct. Many forms of perverted emotion do not lead to conduct which can be reprehended as mischievous or dangerous; thus simple Melancholia, religious depression, some varieties of deep-seated but quiet antipathy, exaggerated pride and selfishness, constitute forms of perverted emotion which often do not express themselves in conduct adverse to the safety and welfare of the patient. In some instances of this kind, conversation and expostulation may be of use: but, as a rule, any direct interference with perverted feeling not expressing itself in conduct, and therefore not to be affected by any antagonistic conduct, tends only to excite resistance, and creates mischief. The rule of moral treatment in these cases is, to remove as far as possible the cause of perverted feeling; to place the patient in a perfectly new surrounding of circumstance, and to trust, first, to the operation of time, in wearing out morbid feeling, and secondly, to the excitement of feeling of an opposite and wholesome nature. Thus, nothing is more common than for an insane person to acquire antipathies to his dearest relatives and friends, accompanied or not by suspicions and delusions. So long as interviews with such relatives, or even intercourse by letter, or conversations about them with third persons, revive at intervals the full force of these feelings, no improvement takes place; but if the patient be removed from all contact with

persons and things which suggest unhealthy reminiscences, if conversation respecting his morbid feelings is interdicted, and especially if all intercourse with the objects of these feelings is absolutely denied for a sufficient time, antipathy often gradually gives way to anxiety and to the yearnings of restored affection.

General depression, without delusion, is one of the purest forms of emotional Insanity. To resist or reprove depression is to increase it. The appropriate moral treatment is, to gain the patient's confidence, to fix his attention, and to furnish interesting and wholesome objects of thought, which will divert the mind from retrospection, which will diffuse, break the train of thought, and so loosen the hold of concentrated emotion. For this purpose, useful occupation is far superior to any form of amusement. The higher the purpose, and the more appellant the nature of the occupation to the best abilities of the patient, the more likely is it to draw him from the contemplation of self-wretchedness, and effect the triumph of moral influences. We have observed some delightful cases of this kind, in which melancholiac patients undertook the charge of the sick; and in Tennyson's psychological epic, 'Maud,' he makes the restoration of his brain-sick hero take place on the soundest principles of treatment, through the intervention of patriotism and martial ardour. It is sound wisdom, in the case of depression, not to attempt too much at a time, but to work patiently and slowly. Deep and undemonstrative feelings, although of a morbid character, cannot be forced. A varied though orderly mode of life, in which useful occupation is pleasantly chequered by amusement, an earnest and sympathising but not too interfering behaviour on the part of the physician and his assistants, the absence of the outward and personal causes of morbid feeling, and the aid of physical remedies in obviating morbid sympathies and susceptibilities, will effect a cure in most cases where there is no irremediable change in the organism, unless the morbid states of feeling have by long neglect become second nature.

Resistance to delusive opinion, and the restoration of healthy modes of thought, is an indication of moral treatment, which is partly fulfilled by the measures proper to the two indications already discussed. Opinion, feeling, and conduct are so closely correlated, that, to act upon one, necessarily influences all. Still, questions of moral treatment arise, which separately relate to

each. With regard to delusive opinion, the main question is, whether it should be openly resisted—and if so, in what manner? Very diverse judgments have been expressed on the point, from that of Leuret and others, who boldly attack delusions with the douche, to that of some English psychologists who appear to think that any kind of interference with the course of nature, in this respect, is beyond the province of the philanthropic physician. We are convinced that the best rule is to give (generally without assigning reasons) a firm, steady contradiction to the truth of the patient's delusion, whenever it is obtruded upon notice; but never to elicit the expression of a delusion, except for purposes of absolute need, as for certification, &c. A morbid thought not expressed, like a feeling not expressed, often dies out by the kindly influence of time. We have often known cases of fixed delusion, apparently hopeless, wear away by imperceptible degrees under this influence. For some reason or other, perhaps from some annoyance or other, the patient ceases to express his thoughts; after a long interval, that obvious but indescribable change takes place in his appearance, which indicates returning sanity; and, when put to the test, the delusion is found to have vanished. On the other hand, we have known sad havoc made among insane minds by an indiscreet and meddlesome person eliciting the expression of their various delusions. When the patient persists in expressing his delusions, the physician must use his judgment as to the propriety of contradicting them in words, or of maintaining a dissentient silence, or remaining as neutral as possible. A knowledge of the patient's temper will be the best guide; when contradiction can be borne without causing anger, it may be ventured upon; but when this is not likely to be the case, an unassenting silence, or dissent suggested by demeanour, is the safer and better course. In the earlier stages of Insanity, when moral treatment is of little avail in comparison with physical treatment, the patient may be permitted to express his delusions without interference; but in the second period, when physical agencies have done their work, when delusive opinion appears to be in some respect the result of a morbid habit of thought, resistance to expressed delusions must not be neglected by any psychologist who aims at the actual employment of moral treatment. Simple dissent, sometimes, with an added exhortation to resist the influence of absurd ideas, is the full amount of positive resist-

ance which can usually be offered. Argument is almost always to be avoided, but the subject of the delusion may be obliquely talked at; and a little happy ridicule, in the hands of persons able to use it with skill and without offence, is not unfrequently useful. We cannot believe that any indications of concurrence in a patient's delusions can be other than mischievous in any cases presenting the possibility of a cure; in some incurable cases, however, such concurrence may be excused on the ground of the happiness it confers. Every asylum contains some unquestionably incurable patients, whose happiness is greatly promoted by an acquiescence in their delusive opinions. We have a patient who has for years taken solicitous and trustworthy care of our horses and dogs, under the belief that they are his property. Another patient takes charge of cows and pigs, although he insists upon being addressed by the title of a certain lord. He is as trustworthy as he is arrogant, and while repudiating the slightest interference on the part of attendants, does much useful work for us, because, he says, one gentleman ought to oblige another. No one would think of diminishing the amount of enjoyment which a hopeless lunatic can derive in this life, by opposing or contradicting harmless delusions, from which he derives, perhaps, more happiness than some sane people do from their false estimates of wealth, and rank, and fame.

The most efficient method of loosening the hold of delusive opinion is, by stimulating the exercise of healthy thought. When Van Swieten recommended that patients should be submerged until they were nigh unto dissolution, in order that old morbid trains of ideas might be destroyed and new ones substituted, he overlooked the fact that loss of consciousness does not get rid of any previous mode of thought, either normal or abnormal. Some curious facts are on record of change in the function of memory from pressure on the brain (see Sir Astley Cooper's 'Lectures on Surgery,' and Sir B. Brodie's 'Psychological Enquiries'); but they do not extend to any change in opinion. This, whether normal or abnormal, when it has become a mental habit, requires to be changed by slow physiological process. If even the healthy mind lays aside, for a time, a certain set or train of ideas for another set or train upon a widely different subject, it is found impossible, on resuming the former set, to think on them in exactly the same light. Feelings

change, and proofs alter in value; time mellows if it does not weaken memory; and if old opinions are resumed, their angles and asperities are removed. With the delusive opinions of the insane, the change is far more complete. If new objects of thought are not only presented to but impressed upon the mind, if the patient is placed in the midst of circumstances entirely new to him—if he is made to experience his pleasures and pains, his sympathies and sufferings, in a phase of existence apparently distinct from that from which he has derived all the suggestions of delusive thought—if employment is made to replace inertia, cheerful society and recreation to replace moping dulness, new trains of ideas become the habit of the mind, and the subjects of delusion gradually fade in the perspective of memory; until at last it requires an effort of recollection to bring any traces of them to the surface of thought. It may be doubted whether any idea, sane, or insane, which has ever strongly held possession of the mind, is so thoroughly forgotten as to leave no traces of its passage. There are few men who do not vividly remember the impressions made upon them by some striking dream. Past delusions, also, are remembered, but new trains of thought divert attention from them; and when, after a time, they are purposely summoned by recollection to the chancery of judgment, it is found that a wholesome change has deprived them of all their force, and a healthier mode of thought contemns the validity of their proofs.

Argument is notoriously useless in the treatment of insane delusion. Never yet was a madman argued out of any absurd opinion, resulting from mental disease; and facts to the contrary are but examples of the form of Insanity changing or yielding to the influences of time or of treatment, or of the last correction of erroneous judgment being effected in a mind verging upon sanity, by the ordinary means which influence sane thought. Arago and Baron Humboldt once kindly undertook to convince a patient that perpetual motion, of which he believed himself the discoverer, was impossible. The patient, a man of science, yielded to their arguments; but, on leaving them, before he got round the corner of the street, he said, "For all they say, I must be right."

Systematic works on Insanity generally contain examples of the cure of delusion by artifice. Prichard, who has quoted

several of them from Esquirol and Guislain, avows that he has had "no opportunity of making similar experiments;" adding "which, however, I shall certainly attempt whenever it may be in my power, though without sanguine hopes of success." We have less hope than Prichard; for we should not think it worth while even to try the effect of legerdemain upon mental disease. We have seen so many painful instances of objective reality failing to influence delusion in the smallest degree, that we have not the slightest faith in the effect of trick. At best it can only influence the semi-delusive ideas of hypochondriacs, as in the instance of the man whose supposed glass legs were well belaboured with a billet of wood by his angry servant maid. But the delusions of Melancholia or Monomania hold on to the mind with quite a different tenacity. We have sent to a distance for the children of a patient who believed they were all dead: when they came before her living and well, her alarm at their supposed apparitions aggravated her condition greatly. When was a man who believed himself ruined, ever convinced to the contrary by every show and use of wealth? We are sorry to be able to yield but very imperfect belief to the recorded accounts of the cure of delusions by legerdemain. The modern examples are so uncommonly like the old ones, that it is impossible to resist the suspicion that they have been copied from them.*

* The following reference to ancient authorities on the subject is from the charming pages of old Burton. "Sometimes, again, by some fained lye, strange newes, witty device, artificial invention, it is not amiss to deceive them. As they hate those, saith Alexander, that neglect or deride, so they will give ear to such as will sooth them up. If they say they have swallowed froggs, or a snake, by all means grant it, and tell them you can easily cure it; 'tis an ordinary thing. Philodotus, the physician, cured a melancholy king, that thought his head was off, by putting a leaden cap thereon; the weight made him perceive it, and freed him of hi fond imagination. A woman, in the said Alexander, swallowed a serpent, as she thought: he gave her a vomit, and conveyed a serpent such as she conceived into the bason; upon the sight of it she was amended. The pleasantest dotage that ever I read, saith Laurentius, was of a gentleman at Senes, in Italy, who was afraid to urinate lest all the town should be drowned; the physicians caused the bells to be rung backward, and told him the town was on fire; whereupon he made water, and was immediately cured. Another supposed his nose so big that he should dash it against the wall if he stirred; his physician took a great piece of flesh, and holding it in his hand, pinched him by the nose, making him beleeve that flesh was cut from it. Forestus had a melancholy patient, who thought he was dead: he put a fellow in a chest like a dead man, by his bed's side, and made him reare himself a little and eat: the melancholy

The occupation of the mind by educational processes of a pedagogic kind, has a high value as a means of a moral treatment in some particular instances. Leuret relates a striking instance ('Des Indications à suivre dans le Traitement Moral,' p. 61) of compelling the patient to learn daily, by rote, a certain number of verses, by which he overcame a peculiar form of insanity, manifesting itself in the constant repetition of fixed ideas, expressed in the same formulæ of words. Among educated patients, we have found literary pursuits of the utmost value as a means of moral treatment; and in asylum management we find school classes, periodical publications, and a lending library, of great importance in affording relief to the monotony of confinement, and in giving topics of conversation and thought.

With more individualised attention than is afforded in our large asylums, the moral treatment might be developed into something like the powerful means of resistance to insane pre-occupation which M. Leuret has made of it. In the Devon Asylum, during eight months of the year, evening-school classes are formed under an experienced schoolmaster, on three evenings in each week. They are carried on by the attendants as class-leaders, in several wards at the same time, and consist of reading, writing, and arithmetic classes. Their influence as a source of wholesome mental occupation has been decidedly beneficial. During the summer months the evenings are spent in open air recreation.

In works which treat upon the moral treatment of insanity, it has been customary to prescribe rules for the guidance of the demeanour and behaviour towards the insane. From the excess of firmness which is demanded by some, one would think it needful that an alienist physician should have "an eye like Mars, to threaten and command," as if his functions were not unlike those of the worthy Mr. Van Amburgh. The universal gentleness and indulgence which others advocate would lead to an opposite extreme, scarcely less adverse to the true interests of the patients.

man asked the counterfeit, whether dead men use to eat meat? he told him yea; whereupon he did eat likewise, and was cured. Lemnius hath many such instances, and Govianus Potanus, of the like."—*Anatomy of Melancholy*, vol. i, part ii, sec. ii.

In another place he says: "Hercules de Saxoniâ had such a prophet committed to his charge in Venice, that thought he was Elias, and would fast as he did; he dressed a fellow in angel's attire, that said he came from Heaven to bring him divine food, and by that means staid his fast, and administered his physicke: so by the mediation of this forged angel he was cured."—Vol. ii, part iii, sec. iv.

The truth, as usual, lies between; and the physician who aims at success in the moral treatment of the insane, must be ready "to be all things to all men, if by any means he might save some." He must nevertheless have a good back-bone to his character, a strong will of his own, and with all his inflections be able to adhere, with singleness of purpose and tenacious veracity, to the opinions he has on sound and sufficient reasons formed of his patient, and the treatment needed to be pursued towards him. With self-reliance for a foundation to his character, it requires widely different manifestations, to repress excitement, to stimulate inertia, to check the vicious, to comfort the depressed, to direct the erring, to support the weak, to supplant every variety of erroneous opinion, to resist every kind of perverted feeling, and to check every form of pernicious conduct.

The physician may often, with the best success, take one part and the attendant another,—a good understanding existing between them as to the end in view. "I have often heard my master, the estimable Esquirol, affirm," says Leuret, "that an insane patient ought often to have the services of two medical men who are thoroughly agreed to act in the same direction, but by different means; the one taking the part of a consoling and officious friend, having only a restricted authority, and submitting himself, or at least appearing to submit himself, to a superior authority; the other exercising the supreme power, knowing everything, judging everything, and on occasion scolding even his colleague. I have found this officious friend in M. Marcel; and one sees with how much tact he has availed himself of the confidence of the patient. My severity rendered the intervention of a protector needful; and this protector in exchange for the support he gave to the patient, acquired the right to his gratitude."

The system thus practised by the senior physician and his junior is available, and often successful by the aid of attendants. The exercise of authority may be assumed by the physician himself, or by the attendant, according to the temper and position of the patient, guided also, in some degree, perhaps, by the qualifications of the physician himself, according to which he may best be able to command, or to comfort and soothe. It is essential, however, that every measure should be taken under the immediate direction of the physician, and that there should be a perfect understanding between him and his assistants In the moral

treatment of the insane, a divided authority, or a diversity of intention, is fatal to all hope of success.

The subject of moral treatment is as wide as that of moral education; nay, wider; for it is education applied to a field of mental phenomena extended beyond the normal size by the breaking down of all the usual limits. Every case has its peculiarities, requiring that its moral treatment should be adapted to them. Moreover, in identical cases, if such can be supposed to exist, the same treatment will not equally succeed in the hands of different medical men. M. Leuret says ('Indications à Suivre')—"To combat the same disease two physicians take each a different part; since, finding in themselves dissimilar faculties and aptitudes, they choose the means with the use of which they are best acquainted. The moral pharmacopœia of the physician, if I may be permitted the expression, is in his head and in his heart; he has in himself that which he gives to his patient. If ingenious, he will give much; if clumsy, although learned, he will do no good. As for precepts and guides, if they exist for you, they are in you; seek them not elsewhere. The moral treatment is not a science, it is an art,—like eloquence, painting, music, poetry. However great a master of the art you may be, if you give rules, he alone will submit himself to them who is your inferior. In matters of physical science there are precise rules; in mathematical ones, there are rigorous calculations; but, in morals, there must be inspiration."

Mechanical Restraint and Seclusion.—A work on Insanity would certainly be defective if all mention of the topic which, of late, has so much engrossed the attention of alienist physicians were omitted. But although we have taken an active part in the warm discussion on the question of the total abolition of all mechanical restraints, we do not feel called upon to revive it in these pages. We have, for sixteen years, conducted a large asylum, whose admissions, during that time, have amounted to 2400 cases, without having had occasion to resort to the employment of mechanical restraint in the treatment of insanity. We entertain precisely the same opinions on the employment of restraint and seclusion as those which, nineteen years ago, we expressed to the Commissioners in Lunacy and which, with many others, they have published in their eighth Report for the year 1854. We shall, therefore, be content to quote some passages

from that Report, in which we have set forth our opinion and practice, in these important questions of treatment.

"In the Devon County Asylum, restraint is never employed, except in surgical cases; in these, of course, the same principles must be adopted for the insane as are necessary for the sane, to ensure that absolute quietude of parts which is essential for the advantageous conduct of the healing process. It is not denied that cases have occasionally arisen in which it was difficult in the extreme to avoid the imposition of restraint; for instance, those of suicidal patients who have endeavoured to effect their purpose, by thrusting articles of clothing and other substances down the throat, by beating the head against the wall, and other means which are scarcely capable of being obviated by any watchfulness on the part of the attendants.

"The occurrence of such cases, however unfrequent they may be, renders it impossible to deny that the imposition of mechanical restraint may, in rare instances, be rendered necessary for the safety of the patient.

"Mechanical restraint in the treatment of the insane is like the actual cautery in the treatment of wounds, a barbarous remedy, which has become obsolete from the introduction of more skilful and humane methods, but which may still be called for in exceptional and desperate cases. It may be said, that as these cases are so rare—that as large asylums are conducted, for many years, without one of them being met with—that as they do not appear, it may be considered as if they did not exist.

"The abolition of restraint was an indispensable starting-point for efficient reform, since its employment was combined with a multitude of evils, which its removal rendered intolerable. Under restraint, the management of the insane could be conducted by a small number of attendants, without calling upon them to exercise either self-control, intelligence, or humanity; there was little need of medical skill, or employment, or recreation; it was found that the easiest plan of controlling the lunatic was by an appeal to his lowest motives, especially to the most debasing of all motives—to fear.

"Without restraint, these conditions were reversed; and, above all, it became necessary to influence and control the insane by higher and better motives. In my opinion, the essential point of difference between the old and the new systems consists in this, that under the old system the insane were controlled by appeals to the lowest and basest of the motives of human action, and under the new system they are controlled by the highest motive which, in each individual case, it is possible to evoke.

"The lunatic is unable, without assistance, to control his actions, so that they may tend to his own well-being and to that of society. He is therefore placed under care and treatment, that he may be restored to the power of self-control; under care, that while this power remains impaired, he may be assisted in its exercise. This assistance may come in the shape of a strait-waistcoat, or in the fear of one; or it may come in the sense of duty imposed in the operation of a gentle but effective discipline, of honest pride, desire of approbation, or personal regard, or the still nobler sentiments of religion. The first motive, that of fear, belongs to man and the animals, and its exercise is degrading and brutalising; the latter motives are human, and humanising in their influence, and their development is the true touchstone of progress in the moral treatment of mental disease. It was the brutalising

influence of fear, and the degrading sense of shame, which constituted the true *virus* of mechanical restraints.

"In repudiating the use of mechanical restraints in the Devon Asylum, the above principle has been kept in view with a jealous anxiety, lest the moral effects of restraint should present themselves in some other form. It would seem that it is more easy, or at least more consistent with our nature, to rule by fear than by love. And the annoyances caused by the insane, on their immediate attendants, are hard to be endured without exciting a spirit of retaliation. For this reason the plan of manutension, or holding violent patients for a long time by the hands of attendants, scarcely deserved the name of a reform; and seclusion, injudiciously and harshly employed, is liable to the same objection. If a patient is to be ignominiously thrust into a dark and comfortless cell, and detained there for an indefinite period, on the occasion of any outburst of temper or irritability, it may well be doubted whether mechanical restraint does not possess some advantages over such a system; and the French physicians may be perfectly justified in preferring the *gilet* to their own *cellules de force*. But, in my opinion, seclusion differs widely from restraint, in its capacity for beneficial employment. Restraint, except in cases so rare that they may be left out of consideration, is always an unmitigated evil. Seclusion, wisely employed, is frequently an important and valuable remedy. The character of seclusion, as a remedy, has never recovered from the attacks made upon it by the advocates of mechanical restraint. They represented, truly enough, that a patient walking about pleasure-grounds, with his arms tied to his sides, was capable of more enjoyment than he would be if shut up in a dark and narrow cell, with all his limbs at liberty. In this objection, the fundamental principle of the new system was overlooked—that neither by restraint, seclusion, nor any other means, was it permissible to inflict upon the insane any unnecessary or avoidable suffering, or any indignity or degrading coercion, whether of a physical or a moral kind. But the possible abuse of a thing is no valid argument against its use; otherwise there is no important remedy, medical or moral, which might not be equally objected to.

"Seclusion should not be resorted to merely as a punishment for improper conduct, or as a means of getting rid of a troublesome patient; but the extreme irritability of some patients, the uncontrollable fearfulness of others, and the reckless violence of a few during periods of epileptic excitement are such that a removal from the society of their fellow-patients cannot be withheld from them without sacrificing their interests and safety. In the employment of seclusion, everything depends upon its method. In the Devon Asylum the padded room is rarely used, except as a sleeping room for feeble patients, who are liable to get out of bed, and fall against the walls at night. Its principal use, therefore, is not for seclusion. The attendants should have the power to impose seclusion only under the most pressing emergencies for brief periods, and until the medical officer can arrive. Seclusion being a remedy, should be directed solely by the medical man, whose care it should be to abstract from it every punitive characteristic. The easiest mode of doing this is, to invest it with a medical character; to speak of it as necessary for health, and even to add some other remedy, more purely medical. In numerous instances, I have observed the most beneficial effects result to the mental condition of patients, from the confinement to bed which had become necessary from some not very serious bodily disorders,—a sore leg, for instance,—and have derived therefrom, on this subject, hints which I have found not without value.

"It is not, however, often feasible to confine a patient to bed for the sake of mental quietude. The relaxation so produced might increase the nervous irritability,

which it was desirable to obviate. On this account it is found an excellent plan to seclude irritable patients in the open air; to place them alone in an airing court, where they can be kept under observation, and where, by solitary exercise, they can walk off their excitability. On this account, also, seclusion rooms should be light and cheerful sitting-rooms, furnished with means of occupation and amusement; the very reverse of *cellules de force*. Where such rooms are not attainable, a vacant corridor, gallery, or day-room, should always be preferred to the cramped space of a single sleeping-room. Seclusion, used as a remedy, should be made as agreeable as possible. It is thought of some importance that patients should, in many cases, have the power of ingress and egress to and from their rooms. At the opening of this asylum, the bed-room doors of one whole ward were supplied with ordinary door-handles on the outside, so that the patients might enter their rooms without the aid of the attendant's key. In each ward where seclusions are most prevalent, single room doors have been prepared with ordinary door-handles and latches within and without, in order that the seclusion may as frequently as possible be robbed of its coercive character: used in this manner, as a remedial agent, seclusion as little deserves the opprobrium of being coupled with restraint, as the warm bath or any other means of allaying nervous irritability. When possible, the patient is persuaded to submit to separation, before excitement has developed into violence, and the employment of force has become requisite. If seclusion is always looked upon as an evil, it becomes an evil by being postponed until it is needful to enforce it by superior physical strength.

"There is, however, another aspect under which seclusion must be considered, wherein it is not remedial; wherein it is acknowledged to be an evil, by its use being justified, as the least of two evils of which the annoyance and danger of the patients in general is the greater. It cannot be denied that Insanity frequently displays itself by excitement of the malignant passions; and that some of the most depraved of mankind terminate their career in asylums. Towards these, seclusion must be occasionally employed in its harsher form, as a coercive means to prevent the welfare of the many from being sacrificed to the passions of the few. But, under a well-developed system of industrial employments, aided by medical remedies, this repressive kind of seclusion is rarely necessary, and in this asylum certainly forms by far the least frequent reason of its employment. Habits of industry, propriety, and order, are inculcated, and with strict surveillance leave to the ill-disposed but little opportunity for the indulgence of vicious propensities. By these means, habits of self-control are gradually established; and frequently, in the end, self-respect is so far awakened that it becomes both prudent and just to withdraw surveillance."

In conclusion, it may be useful if we briefly indicate some of the most common forms of violent conduct met with in the insane, and the treatment they demand.

First.—The violence of an insane patient may result from an irritated state of the nervous system, and a general sense of discomfort resulting therefrom. Such a patient should be soothed and tranquillised by the kind and sympathising behaviour of those around; the effects of his violence should be perceived and obviated, but not resented; and the diseased hyperæsthesia of

nerve should be calmed by appropriate medicinal and regimenal treatment, narcotics, warm baths, &c.,—local depletion for cerebral hyperæmia, or stimulants and full diet for the reverse condition of the brain.

Secondly.—It may result from increased energy, or at least from increased rapidity of exhaustion of the nervous force, wasting itself in the rude conduct of boisterous good or bad temper. The treatment is medicinal and regimenal. These are the cases in which active and prolonged muscular exercise is sometimes of use. The patient may need to be walked rapidly between two attendants; seclusion is occasionally needful. This condition rarely lasts long.

Thirdly.—Violence may arise from delusion. The patient may think that those around him have injured him, or intend to do so; he may consequently be violent from anger or fear. Or he may believe himself called upon to kill himself, or some one else, and hence become the subject of suicidal or homicidal violence. Such a patient must be soothed by gentle words and kind treatment, and medical remedies must be directed against the pathological condition of the brain, upon which the delusion appears to depend.

Fourthly.—Violence and destructiveness are sometimes indulged by a patient as the mere result of habit. Under unskilful management, the manifestations of excitement continue after its pathological conditions have ceased. Habit is the fruitful source of all that is good or bad in the actions of man, and its influence upon insane conduct requires to be carefully discriminated. When the habit is of long standing it can only be eradicated by a process of re-education. Change of circumstances will do much to remove it; but a careful and patient system of mental training, —the application of moral treatment in its fullest sense,—is the sole remedy, not only of violent, but of all other insane conduct which is the result of habit.

Fifthly.—The violent conduct of an insane patient is sometimes the expression of his normal state of mind and disposition. Violent and turbulent men supply their full share to the population of asylums. Sometimes the red hand is palsied by the touch of insanity. Sometimes the original disposition, and the power to express itself in dangerous act, remain unchanged. Violence of this kind, resulting from a fierce and wicked disposition, might,

on first thoughts, appear to justify the most direct and energetic measures of repression; but when we reflect how little the malevolent disposition of a sane man has been proved, by the failure of all reformatory methods, to be modifiable by any forms of repression or punishment; when we reflect that punishment of any kind, even when most deserved, is entirely foreign to the beneficent calling of the medical man; we shall do right to conclude that it is enough to distinguish this form of violence from others which are the symptoms of disease, and to meet the dangers resulting from it by measures of precaution, while we strive to weaken the force of passionate and evil temper by that long-suffering charity which overcometh evil with good.

Treatment in Asylums.—In the county Asylums for paupers and in the Hospitals for the insane of this country, the routine of treatment of the insane at the present day is so generally excellent that it admits of little criticism, so well understood by those whose duty it is to practise it that its details stand in no need of elucidation in this place, and so incapable of being taught excepting by personal and practical study and work that it will be needless to dilate in these pages upon points of asylum management upon which there exists a general consensus of opinion.

With a general conformity and resemblance in all main and essential points, the management of various asylums and the treatment of their inmates do present such an amount of diversity as might be expected from the freedom of opinion and of action which is permitted to scientific men in their discharge of complicated and difficult duties, in which precise rules cannot be laid down without injurious restraint upon individual action. It is not altogether disadvantageous that even wrong methods should sometimes be tried and tested, if this be done openly, honestly, and with a right purpose; for this is one condition of advancement in practical science. We shall, however, indicate some important points of treatment in asylums on which so much diversity of opinion appears yet to exist as to justify the expression of our own experience and opinions.

Classification in Asylums.—By this we of course do not mean that nosological classification of the insane according to various systems which has already been fully discussed, but that practical division of the inmates of an asylum into various groups which is an important means of treatment, needing all the good sense and

experience which the physician can employ. Classification must to a great extent be ruled by the facilities or disabilities offered by the buildings which the physician has to use as his instrument, by the number of wards, their size and position, and by the peculiarities of the patients which he has to classify.

Is it possible, and if possible, is it right to abolish that opprobrium of asylums, the refractory ward? If this can be done without too great interference with general comfort and tranquillity, there can be little doubt of the advantage which is gained; for to assemble together the more excitable patients in one place is clearly a direct method of increasing excitement. In the Devon asylum we tried the experiment of distributing this class of patients throughout the wards, and of thus diluting the excitable element. Among the men it succeeded, in the women's side it failed; and this result might have been anticipated, by reflecting upon the greater amount of latent excitability in the female sex. The tranquillity of the female asylum was on the whole deteriorated, and the greatest good of the greatest number was not promoted.

Among the men the distributed excitability was not contagious, and the only reason why a special ward for the excitable and the dangerous should be maintained on this side of the house appeared to be the very unsatisfactory one that during working hours most of the tranquil wards are emptied of their inmates, who go to the field, the garden, and the workshops, leaving many of the wards practically tenantless, so that it became convenient to associate in one place and under one supervision, those who were too excitable or too dangerous to accompany those who were capable of occupation. A large refractory ward is a great evil, and the best remedy, we think, is to have small wards for these cases and to make persistent efforts to dilute this element of disturbance and discomfort. These small wards should be abundantly provided with single rooms. The courts also should be of limited extent. For the patients generally the grounds can scarcely be too spacious, open and undivided, for experience has shown that fatal accidents may readily occur in a refractory airing court which is too large for the attendants to be always near at hand to their dangerous charge. Melancholy and depressed patients should certainly never be collected together, but divided and distributed as widely as possible. The timid and fearful should be separated from the talkative and the unquiet; though this does not apply to the depressed who are

not timid, and to whom strong moral impressions are sometimes of much benefit.

We have occasionally seen an excellent effect produced in the female wards by the presence of infants or young children either admitted with their insane mothers or born in the asylum. Pet animals are often useful by cheering the monotony of asylum life ; but what pet animal can compare in its influence upon any true woman, or man even, with the young human animal, with the gentle tyranny of its appeal to the strongest and best emotions and instincts of our nature? We have had several of these little mental physicians in our wards, and never knew the slightest harm happen to them, nor their failure to elicit the most tender interest and affection of a great number of the patients. A woman who in a state of manifest insanity had thrown herself and her two infant children into the river from which she alone was rescued, made the first step to recovery in the following manner. She had remained for many months in a state of the deepest depression, and had never spoken a word nor partaken of food except when quite alone. We caused an infant child of our own who could just walk to toddle past her. She evidently noticed it with interest, and on the next trial she could not resist the same womanly impulse, but called the little one to her, fondled it and talked to it, with the first words she had spoken since the catastrophe. From that time she spoke to others, improved and recovered. When she was arraigned for murder, the Judge, Coleridge, directed the jury to return a verdict of "Not Guilty" and ordered her to be discharged into the custody of her friends, and she remained well. Morel, of Rouen, gives an interesting case in his 'Traité des Malades Mentales,' p. 613, in which he recounts the history of a lunatic lady who was under his care as her travelling physician, which we may thus summarise:

She suffered from deep Melancholia with delusions of persecution. She was an accomplished musician and artist, but although Morel took her through the glorious museums and galleries and spectacles of Italy, the result was only to deteriorate her condition. She never spoke, but groaned continually, and lost all habit of the natural instincts. At Venice, Morel took her to a magnificent theatrical display, at which she groaned, forced pins into her flesh, and at length exploded with the reproach that he had brought to the theatre a woman whom he knew was then condemned to be burnt for her crimes. Morel then thought he would try the effect of exciting painful emotions on the principle of 'moral homœopathy,' that pain might possibly be cured by pain. He had failed to make her manifest any regret or longing for her

absent children, but he took her to many of the orphanages which are so common in Italy. He was astonished to see his patient, who would march groaning through museums and galleries with her head down, pass through these orphanages with looks of intelligent tenderness for the poor children, and sometimes caress them when she thought herself unperceived. At length at the Hospital at Venice she was thoroughly moved by the sight of a poor dying woman who held to her breast her two young infants, and she spontaneously demanded that the two orphans should be received by her at her hotel, where she lavished upon them her care and solicitude. From that moment she began to recover, and although the subsequent treatment, which consisted of a course of German baths, was prolonged to fifteen months, the ultimate cure was complete.

We have permitted ourselves to pursue this digression because it forcibly illustrates the importance in treatment of endeavouring to act upon the emotions.

Idiots if numerous should most certainly be collected and treated as a class. Their repulsive appearance and objectionable habits render them unfit to associate with other patients, without causing disagreeable and even injurious impressions. Moreover they ought to be subjected to a system of diligent training and education, which can only be adequately applied to them in a class of some size. The best arrangement, no doubt, is a separate idiot asylum attached to the general asylum, in the manner which has been so well carried out at the Warwickshire County Asylum.

The classification of the sick, the infirm, and the acute cases in asylums is important. Sometimes the sanitary condition of asylums of considerable size is so good that there are no sick ; and therefore no need of a special place for the treatment of intercurrent body diseases ; but there ought always to be the means of readily providing such a place whenever the necessity shall arise, although a small number of sick cases may very adequately be treated in single rooms, in a tranquil ward containing some of the more healthy and intelligent of the patients. This arrangement is especially good on the female side where the patients who have little the matter with them form excellent assistants to the nurses. There is often no better or more sanatory employment for a woman, whose own malady is ceasing or intermitting than to aid in the nurse-tending of her sick sisters. The best feelings of womanly nature may thus be evoked to the advantage of both agent and patient. For the treatment of contagious disease there ought to be the means of providing an infirmary unconnected with the wards, when the need shall arise. Cases of acute delirium,

and of acute Mania, complicated with bodily disease, cannot be treated in an infirmary containing the ordinary sick. Such cases ought to be treated in single rooms of good size, placed where the noise of raving delirium will not disturb and distract the other inmates.

For convalescent patients the best place for care and treatment is not in the regular wards of the asylum, but in some detached or semi-detached residence, like the cottage-wards which we first established in the Devon Asylum, or, better, in small buildings, quite apart and away from the great institution, but under the easy inspection and control of the superintendent. It was partly for this purpose that we were the first to recommend and to construct detached blocks, complete in themselves, and at some distance from the Asylum—a plan which has now been imitated in many other asylums with satisfactory results. The mischief is that these detached blocks present such tempting facilities for providing increased accommodation that they are generally enlarged until they are spoiled as cottage wards.

A still greater removal from the asylum is even desirable, and where there is a neighbouring village, or the scattered residences of asylum servants, convalescing patients may be most advantageously placed therein as a halfway house to the freedom which follows discharge. Well-to-do convalescents should be removed from a private asylum into private lodgings or into residence in a private family, and in many places there would be little difficulty in providing the poor with the undoubted advantage of this gradual liberation. When a patient has not quite recovered, but is in a convalescing state, he or she is frequently found to be in an impressionable state, which renders the surroundings met with in an asylum increasingly painful and opposed to the thorough re-establishment of mental stability, and at this time removal from the wards without discontinuance of the medical care is prudent, wise and humane. The happiness of the patient is greatly promoted, and the test of partial freedom may often be applied at a far earlier period than the physician would think it advisable to give an unconditional discharge. The statutory form of discharge on trial to the patient's own home is quite a different measure, very proper and useful in certain cases of doubtful recovery; but it does not provide for that gradual restoration to health which is the common course of mental as of most other forms of recovery

from disease. It is like pushing a man convalescing from pneumonia directly from the warm atmosphere of the hospital into the cold air of the streets, with a promise that if he should suffer from relapse he may return with the same ticket.

Food and Work.—We conjoin these elements of treatment because they are twin influences in the supply of good blood to the brain which forms the broadest and soundest foundation of the treatment of the insane. With too much food and too little work, or with too little food and too much work, the vivifying stream from which healthy mind is eliminated in the convolutions of the brain, will either be impure or impoverished. Work, no doubt, has also a moral influence, and in that regard we may call it Occupation, and consider it together with Recreation; but here we wish to call attention to its physical relation with the health of the nervous centres.

Let the reader turn to Arndt's plate of the circulation in the healthy brain, and reflect upon the enormous supply of arterial blood to the convolutions wherein the mental work of the organ is elaborated, and he cannot fail to be impressed with the primary necessity of abundant good blood for the development of mind. Ferrier's experiments with Faradization of the brain have proved this necessity in a singularly clear manner.

As this able physiologist and experimenter informed the British Association at Bradford, "the results of experiments which he had himself made had shown the utmost importance of a proper arterial blood supply to the brain. He had found from experiments on numerous animals that when, owing to the operations necessary to expose the brain, the blood supply was lowered to a very great extent, the brain immediately ceased to give any action. When a brain was acting properly, with a circulation flowing through it freely, it reacted to a slight stimulus of electricity; but when the heart was very weak and the animal had lost a great deal of blood, he might apply any stimulus, however powerful, to the brain, and it would not react. Moreover, he had seen animals which had lost a large quantity of blood in that way fall asleep, and any stimulation would entirely fail to awaken them. Wherever there was a deficient arterial blood-supply to the brain there was always a diminution of the intellectual powers, and a tendency towards the elevation of the emotional states, leading generally to what was commonly characterised as depression."

In the most acute forms of mental disease, especially in acute delirium, the life even of the patient depends upon the supply of good blood being sufficient to counterbalance the degenerative change taking place in the grey matter of the convolutions. In these cases the question of food is often that of existence, and the recumbent position must be retained to husband the muscular strength, and to enable the heart more easily to send an adequate supply of blood through the cerebral arteries.

In the more chronic forms of Insanity, moreover, and in dealing with the large number of insane collected in asylums, some of whom will recover, and most of whom will improve under proper treatment, the due supply of healthy blood to the brain depends on the ingestion of good and sufficient food, on its digestion and conversion into blood, on the aëration of the latter in the lungs, and its impulsion by a strong heart through the cerebral vessels; and to gain these ends good food and work in the open air are the obvious means. In our own country, at the present time, the supply of good food to the inmates of asylums, whether public or private, is rarely deficient. Its necessity may sometimes have to be explained to lay authorities who have no physiological knowledge; but it is so essential a means of curative treatment, and even of satisfactory care taking, that we can never expect that it should be neglected by any well-instructed medical men. Even in Institutions filled with chronic and incurable cases, the effect of good and sufficient food in the diminution of excitement and on the mental improvement of the inmates, is one of the most remarkable phenomena of human physiology on a large scale with which we are acquainted. The general tranquillity and wellbeing of the thousands of lunatics collected in our huge English asylums, as compared with the frightful excitement, turmoil, and uproar which were common in former times in this country, and with which, even in recent years, we have been appalled in some foreign asylums, this difference we do not hesitate to attribute in the main to an abundant supply of food. Kinder and better management may indeed have much to do with it, but the non-restraint system will never tranquillise a number of ill-fed lunatics; and we have no doubt that the thin, poor dietaries which prevail in the asylums of many foreign countries are the principal cause of the difficulty which many foreign alienist physicians have experienced in carrying out our improved treatment of the insane.

If patients were well fed in foreign asylums, the proportion of those who would be excited and turbulent would be so much lessened that the question of mechanical restraint would be greatly diminished in its dimensions. As it is, we have seen within recent years such numbers of raving lunatics in several foreign asylums as to be out of all proportion to the population. In the asylum for the city of Florence, we counted in 1870 thirty-six women, each one of whom was tied tightly up in a strait-waistcoat, and almost all of them in addition strapped into restraint chairs; all of them in a high state of excitement, and producing an inconceivable Babel of discord; and in 1868 we saw in the public asylum at Bergen eight patients out of a total of fifty-six in strait-waistcoats, and almost all of them highly excited. If a good dietary had existed in these asylums, which we give as extreme examples of what we have observed to be the general rule, we do not believe it would have been possible to have found in them so many lunatics in such a preposterous state of excitement.

But good food cannot produce its full tranquillising and curative effect upon the brain unless it is properly digested and circulated. The stomach and the heart must perform their functions well before the cerebral cells can absorb their nutriment, and to effect this purpose bodily exercise in the open air is in a great number of cases almost essential. This helps the digestion, expands the lungs, and strengthens the heart, and thus the brain gets what it wants to provide improving capacity for mental processes during the day and mental repose during the night tending towards health and sanity. Work on the land is the best undoubtedly. Anteus-like, man recovers strength as he touches mother earth. No doubt the work of lunatics may be carried to excess, so as to weaken the heart and depress the general powers, and looking at the reports of some of our public asylums, in which labour seems to be regarded as the means to financial rather than to therapeutical success, one might well fear that it is sometimes abused. We must, however, freely confess that in a large acquaintance with public asylums and knowledge of their proceedings in this respect, we have never actually seen the lunatic inmates employed in labour beyond the limit which was wholesome and beneficial. A medical superintendent may indeed readily fall into error in this respect in the case of individual patients unless he exercises due prudence

and caution. Recent cases may be permitted to engage in labour at too early a date or to too great an extent, and their improvement be retarded thereby; and it certainly ought to be laid down, as a rule, that no lunatic patient should be permitted to engage in work except under medical sanction. Asylum stewards and bailiffs ought to be kept under strict medical control in this matter. We never, however, have yet visited an asylum where the whole of the lunatics have appeared to us to be required to do more work than was directly good for their health both of body and mind.

It appears to us that the women in our public asylums ought to share with the men the advantage of out-of-door work more than they do. Some of them are kept too stringently to monotonous and not very wholesome labour—that of the wash-tub, for example. Others lead to too great an extent the unwholesome life of the seamstress. If it should be inexpedient to employ them in the fields, surely they might be more employed than they are in the garden, and even on the farm. The dairy, the piggery, and the poultry yard, come fairly within the conventional sphere of woman's duties, and would supply to the females in our asylums varied work and interest which could not fail to be beneficial and restorative.

In considering this question in relation to private asylums we must change the terms and write exercise or occupation instead of labour. They are not indeed the same thing, and lack half the interest, the regularity, and the benefit. Gentlemen, we are told, will not work—an excuse too readily admitted for the apathy, indolence, and wearisome monotony of life which are observable in many private asylums. That gentlemen should not be expected to dig and delve like those who are to the manner born to such pursuits might be expected. But surely there are methods of providing sufficient bodily exercise with mental occupation to a far greater extent even among the indolent classes of society, than is often done in private asylums. There may be some difficulty with a few literary or professional men who have almost forgotten the use of other muscular members than the tongue and the fingers, but the English gentleman when in sound health of body and mind delights in muscular exercise. Whether in town or country, he walks, rides, shoots, rows, plays cricket, or he has his workshop and lathe, and in a hundred ways makes his muscles the strong

servants of his pleasure in a manner which astonishes the luxurious monsieur or the indolent signor of the south; and yet when his mind fails he is found in a private asylum dawdling round the grounds or lounging in the billiard room, or at most he is sent a dreary walk along the country roads without purpose and without interest. Compared with the pauper lunatic he eats more and works less or not at all, and the result is that he is far more miserable, more unhealthy, and less likely to recover. In the earlier stages of his disease and of his captivity he emaciates for want of duly assimilated food; in the later stages he often becomes bloated and obese. There must be want of activity and enterprise, or ignorance of mental therapeutics, or apathy to the welfare of the patients, in any management which can permit such a state of things to exist; for although it may be difficult to provide strong, varied, and interesting exercise for gentlemen in asylums, it certainly is not impossible. At present we may fairly ask where is the effort diligently and persistently made? Where are the asylums for the rich whose proprietors have provided a supply of saddle-horses for their patients? Where have they a boat on the river—where even have they a well used cricket ground—where have they taken a manor for sport, keeping greyhounds and beagles and ferrets and fishing apparatus—where even do you see gentlemen in a private asylum amusing themselves with garden work, carpentry, or at the lathe? And yet all these things are not only feasible and practicable, but most of them are actually practised in public asylums. The patients in the asylum at Haslar are on the sea in their boats whenever weather permits, and those in the Yarmouth asylum sweep the sea of the coast with their fishing nets. We ourselves kept boats on the estuary of the Exe and frequently indulged in sailing, rowing, and fishing, with none but lunatics for our crew. We have recently known a chronic and most unpromising case which is now convalescent; he was sent from a metropolitan asylum to the sea-side, where he had two months of daily boating and fishing, and to this he himself attributed, and with perfect justice as we think, his remarkable recovery. Horse exercise is too costly for the poor insane, but we have known it used most beneficially by those who were able to afford it. We once knew a ride across country cure a man, or at least, it was the decisive turning point of cure. He was the son of a country squire, and his father by our advice sent him his hunters. On his

first ride, after ten miles along the highway he turned to his attendant and said, "I have come along the road for your pleasure, and I shall go back across the fields for my own." So he rode straight home, taking everything in his way, and he rapidly recovered from that time. We have even had a lunatic living in an asylum who kept his pair of hunters and regularly used them in riding to hounds by the order of the Lord Chancellor. Riding across country may be thought an extreme and dangerous occupation for a rich lunatic, but ordinary horse exercise along the roads is scarcely so. Riding is to thousands of the English country gentry second nature, and yet when they become residents perhaps for life, and may be having but little or nothing the matter with them so far as capacity to take care of their own personal safety is concerned, they never are permitted the enjoyment of this most pleasant and healthy exercise. Then again sport, which is so healthful and delightful to the English gentleman, why should it not be provided for him because he has drifted into an asylum as a more or less permanent resident? We have known single lunatics out of asylums who kept packs of beagles, with the approval of the Lord Chancellor, and who thoroughly enjoyed the healthy exercise which they afforded. At Ticehurst we believe the only exception exists that the safe and exciting sport of running after these merry little hounds is provided for the inmates of a private asylum. Many of the superintendents of public asylums are coursers, to the delight and benefit of their patients. Why is this sport never provided for the insane who are rich? Not even the quiet and apparently unobjectionable sport of angling is permitted to the inmates of private asylums, yet we know single patients who are constant and enthusiastic fishermen, and derive untold pleasure and benefit in the pursuit of their sport.

Yet we can scarcely wonder that occupations and amusements which are in any way capable of being thought risky, or costly, or troublesome, should be omitted in private asylums when we so seldom see even the safe occupation of gardening resorted to. Even a skittle alley or a bowling green is rarely provided, although they are universal in public asylums, skittles in the south, bowls in the northern counties. Our skittle alleys in the Devon Asylum were the most popular amusements we had, the patients needing no other inducement to frequent play beyond the fun and enjoyment they had from it. A set of skittles did not last long, and

even the *lignum vitæ* bowls were soon worn out of shape. Perhaps they are vulgar, but the Shah played at them at Trentham.

Moreover when lunatics above the social rank of the labouring classes find their way, as from various causes they sometimes do, into the wards of the county asylums, it is not observed that there is any insuperable difficulty in prevailing upon them to engage in work, occupation, and amusement. The difference of habit between the gentleman and the working man is not so great as to make a valid excuse for the frequent difference between a public and a private asylum in this respect, the one appearing even to cursory view as a hive of industry, the other as a castle of indolence.

We will not say that accidents never happen in these pursuits which we recommend, though we have never known one. A constant benefit may well be purchased cheaply by a rare accident; but, in fact, accidents to the insane do not come by the way or in the manner by which most people would expect them, and well watched liberty with enjoyment is certainly far less perilous than the weariness, though apparent safety, of restriction and monotony. A lunatic is far more liable to commit some violent act on himself or on others on account of the misery of a wearisome existence, than in breach of the confidence which is reposed in him for the purpose, well known to himself, of increasing his limited enjoyment of life.

Balls, Concerts, and Theatrical Entertainments. — Of these we entertain considerable distrust, especially if they are large, ostentatious, or in any way public. A dancing and music party not on too large a scale, so frequently repeated that the edge of novelty is blunted, and strictly confined to the inmates of the institution— this certainly promotes the cheerfulness of asylum life without much danger of causing undue excitement. Music is a great resource to ladies, but the brass bands formed of asylum servants are a questionable hobby. In some asylums no attendant is engaged who cannot play upon some musical instrument, thus limiting the choice of fit and proper people for infinitely more important duties. An asylum superintendent has a very good right to a hobby-horse, but it is well that he should have one with a long back upon which he may take a goodly number of his patients up behind, maybe to journey with them over the borders of madman's-land. Music and theatrical entertainments may be a hobby of this kind, but it needs to be ridden with direct purpose

to this end. We have seen it ridden so hard as to appear the only nag in the stable.

Removal from an Asylum is frequently a question scarcely secondary in importance to that of placing a patient in one. As a rule patients are only removed from pauper asylums by recovery or by death; but a large proportion of the discharges from private asylums are of uncured patients who for good or bad reasons are taken to other asylums, or who are removed to be placed under domestic care and treatment—a change which is likely to be beneficial or the contrary according as it is or is not adopted with prudence and knowledge.

In the treatment of many cases, whether in public or private asylums, a time comes when removal to other influences is followed by marked improvement and often by rapid recovery. Unfortunately the poor man removed from a county asylum is, as a rule, immediately plunged into the hard work and trying circumstances which the struggle for existence of those who live literally by the sweat of the brow must ever entail. For him there is no intermediate halting place, and, therefore, his detention in the asylum until he can be pronounced to be thoroughly of sound mind is a measure of precautionary hygiene, which might most profitably be replaced by residence in an asylum sanatorium, or an agricultural colony apart from the great institution, if these could be provided. The provision made by the statute of sending such patients out upon trial with an allowance for maintenance does not fully meet the requirements of the situation, although it may assuage the struggles and moderate the steep gradient of sudden change.

With regard to the Rich there can be no doubt that asylum treatment ought in all cases, where there is a probability of cure, to be supplemented by change of place, scene, and surroundings, whenever that critical period arises in which excitement with delusion, or depression with delusion, is obviously tending towards quietude with weakness of mind. In this stage, which occurs in very many cases, there is often so much nervous and mental irritability that the associations met with in asylums are no longer curative, but painful and injurious. If patients are retained in an asylum during this period they are liable to a return of the original mental state, or still worse to decadence into one of the many forms of mental weakness. Change from the asylum to the patient's own home may be at this time most unadvisable, but change to domestic treatment

in the residence of strangers who have the requisite qualities of good sense and good nature will often effect a cure rapidly, which would otherwise be lingering and long deferred or perhaps altogether lost. Change to lodgings or to a house taken for the use of the patient with attendants and servants provided by the asylum proprietor, is for obvious reasons more frequently recommended by the latter, and is certainly a valuable expedient, which indeed may often be tried where the greater change to domestic treatment is thought to be unadvisable. It may be tried when the patient is too excitable and uncertain in his conduct to be admitted into any family circle or the inner life of any private home. It does not withdraw the patient from the observation of the medical man under whom his improvement has so far progressed, and who is able to provide the favorite or the most competent attendants and all needful requisites for care and treatment.

Some of the larger private asylums have small home-like establishments of this kind beyond their bounds, but included within their licence, and it is always easy to obtain house convenience for this most useful change, under the statutory powers of the Commissioners to grant leave of absence upon trial. And we think that this trial of treatment out of asylums, but conducted by the asylum physician, ought to be made use of far more frequently than it is. The annual change to the sea side, which is now so generally given to the quieter inmates of private asylums, although excellent in itself, does not by any means meet the requirements of treatment which we are now discussing. We were ourselves the first to establish a sanatorium for lunatics at the sea side when in 1856 we placed between forty and fifty patients in a house at Exmouth. We had every reason to be satisfied with that experiment, and we are gratified in no slight degree in finding how universally and beneficially that experiment has been imitated by the medical officers of private asylums; for the exodus of lunatics from asylums to the sea side every summer or autumn seems to us one of the greatest practical improvements that has been introduced of late years into the management of private institutions. The amount of health and happiness gained by this annual break into the monotomy of asylum life is not easily calculable, and we have known patients who participated in this annual excursion at a critical time in the history of their malady recover entirely from the effects of it. Still, this is not the kind

of change from asylum treatment which we here wish to discuss on its curative merits. The sea-side change only takes place at one time of the year; it is generally made by a considerable number of patients for the needful purpose of avoiding expense; and these patients are often removed for a time from the constant observation and care of the asylum physician. As a result, its beneficial effects are more seen in the improved physical health and in the temporary enjoyment of chronic lunatics than in the mental improvement of those who are curable.

The curative treatment in the later stages admits of much moral and intellectual influence, and in donbtful cases which hang on hand, needs to be tentative and varied, and always under the advice and guidance of a mental physician.

The Domestic Treatment of the Rich.—By the rich we mean those who have fifty pounds a year and upwards. This may be thought an extraordinary limit, notwithstanding that the vicar of sweet Auburn was declared to be "passing rich upon forty pounds a year." Still fifty pounds a year of income, or one thousand pounds of capital, has been fixed by act of Parliament as the limit which separates those who have a right to the protection of their persons and property by the Lord Chancellor *in formâ pauperum* from those who cannot obtain it excepting by the costly process of an Inquisition, and as a fact we see and are in the habit of seeing numbers of lunatics who enjoy unexceptionable domestic treatment whose income very little exceeds the modest limit above mentioned. The wants of a chronic lunatic are not great; a healthy cottage, adequate food and raiment and a kind attendant comprise the most urgent of them, and these even in these times of enhanced prices can be and are procured for the small sum we have named. The really poor man in this old country is quite differently circumstanced, and his care and sustenance have to be wholly provided or in some way eked out either by charity or public obligation. But although fifty pounds a year is the legal limit in one direction, there is no limit in the other, and chronic lunatics include many who possess and have a right to enjoy, so far as they are capable of enjoyment, very large amounts of accumulated wealth. The question then fairly and practically arises, what kinds of chronic lunatics having means for their support, care, and treatment should be detained in asylums, and what kinds of them should be indulged

in the comparative freedom, happiness, and luxury of domestic treatment?

So long as a patient is excitable, quarrelsome, and noisy, or dangerous to himself or others, while he is suicidal or subject to attacks of impulsive or delusional violence, while he entertains delusions which are likely to cause grave domestic trouble or breach of the public peace if he be at large, or if he be restless and impatient of all restraint, control, and guidance, an asylum is still the best place for him, however chronic and hopeless of recovery his case may be. On the other hand, if he become tranquil, docile, and only weak of mind or possessed by harmless delusions, even if he be subject from time to time to slight fugitive excitement, or to simple depression without suicidal tendency, there is no valid reason why he should not be placed either in a home of his own or in the home of strangers, where he can enjoy his crippled life with as much freedom as his means and condition will admit. Dr. Maudsley in his presidential address to the Medico-Psychological Association in 1871, argued with his usual ability and width of view the question as to the comparative advantages of the treatment of Insanity in asylums and in private houses, and he elicited an exceedingly interesting and full discussion on the subject. Dr. Maudsley laid down the following propositions: "First, that not many persons recover in asylums who might not recover equally well out of them; and secondly, that the removal of an insane patient from the asylum sometimes directly conduces to his recovery."

The remarks we have already made on the curative influence of asylums during certain states and stages of mental disease will show that we cannot admit the soundness of the first of these propositions; and we expressed this disagreement in the discussion above referred to; but to the second proposition we give our entire assent. Dr. Maudsley maintained that the "discipline of an asylum, counting for a great deal in some cases, has this great disadvantage, that the patient's individuality is little considered; he becomes one of a crowd the majority of whom are not expected ever to get well, and his moral treatment is little more than the routine of the establishment and the dictatorship of an attendant." This disadvantage it is which tells so injuriously upon the irritable state of nervous weakness which so often succeeds an acute attack of Insanity, during which the moral influence of one sound wholesome mind brought into constant

relation with the recovering intelligence and subsiding storm of emotion is so invaluable, and this influence can certainly be brought into play more advantageously in a private residence than in an asylum. As a rule patients are sent to an asylum too late, and are kept there too long. Dr. Blandford accurately expresses these views in his lectures.

"During the time that an asylum might effect a cure, the friends would not hear of sending him thither; but when all hope of cure is over, he is placed there because it is cheap and saves trouble."

"How are you to know if a patient is capable of living beyond the walls of an asylum? The answer is simple; give him a trial: many unpromising cases I have known to benefit so much by the change that they would scarcely have been recognised. Few chronic lunatics are dangerous to others: these are easily known, and we should be slow to place in a private family anyone who has ever committed an homicidal act, unless he is fully and perfectly recovered; suicidal patients require the protection of an asylum so long as Insanity remains, but there are scores of eccentric monomaniacs who are perfectly harmless, who only require surveillance and a limit to their supply of money, and can enjoy life thoroughly amidst the amusements of town or sports of the country, their eccentricities being greatly smoothed away by the constant society of educated ladies and gentlemen. As the last generation did away with the fetters and mechanical restraint used in asylums, so let the present release from the restraint of any asylum all those capable of enjoying a larger amount of liberty and freer atmosphere than that in which they now fret and chafe" (op. cit., pp. 361 and 372).

With these sensible and humane opinions we entirely coincide, from the knowledge gained by the observations of many hundreds of insane persons who do reside in their own homes or in the private residences of other persons, and who are placed in all the freedom and the enjoyment of life which their malady and their means will permit. But there is another side to the question. If some insane persons are kept in asylums who ought not to be there, certainly many others, perhaps as many others, are kept out of asylums who ought to be placed therein; and it is often at least as difficult to persuade the friends of a perverse, an intractable, or even a dangerous lunatic, or one who needs constant medical care, to place such an one in an asylum, as it is to prevail upon the friends of other lunatics who are harmless and docile to give them the indulgence, freedom, and happiness of domestic life. We are inclined to think that this difficulty is one of such magnitude and importance as to demand the interference of the Legislature, for if it exists with regard to chancery lunatics, who are under the immediate protection of the

state, how much greater must be the evil with regard to those lunatics whose proper care and treatment are entirely dependent upon the good intentions and right judgment of their friends. And the relatives of lunatics have, as a class, peculiarities which often render it a most difficult, and sometimes an impossible task to persuade and influence them to a right and rational discharge of their duties. A large proportion of them are more or less eccentric in their views, and strange or irregular in their feelings, and, on account of consanguineous similarity to the lunatic himself, the very worst persons to form a sound judgment of the best mode of treatment to which he can be subjected. Even if they should be as correct in sentiment and judgment as other people, the mental physician constantly meets with this great difficulty in obtaining their concurrence with his views, that in the early and curable stages of Insanity they are affrighted at the responsibility of placing their insane relatives in an asylum with a view to curative treatment, and in the chronic and incurable states, when a patient ought to be placed under domestic care, they have had time to become apathetic and too ready to leave their relatives in asylums because there they cost less, give least trouble, and are out of sight and mind.

The Cottage Treatment of the Poor.—This is a question closely allied to that of the domestic treatment of the rich, but with certain differences. It has been argued to a great extent on the eagerly disputed merits of the remarkable institution of Gheel, and on the advisability of attempting to imitate that curious old-world establishment in our own country. The literature on the Gheel question has become quite voluminous, Baron Mundy having collected 300 papers upon it. We must excuse ourselves from entering upon the discussion, with the remark that Gheel, like the British Constitution, has been the gradual growth of centuries, and that any exact imitation attempted in our age and country would be likely to be as futile as any one of the bran new constitutions planned by the Abbé Sieyes. Still it has been imitated on a considerable scale in Scotland under the wise auspices of Sir James Coxe, and the permanent relief of our overgrown pauper asylums appears to us only hopeful in this direction. At the discussion on Baron Mundy's paper, which took place at the annual meeting of the Medico-Psychological Association in 1862, we expressed our doubts as to the extensive application of the system in this country.

We had placed tranquil patients in the cottages of a village near to the Devon asylum for five or six years before that date, and we still continued and endeavoured to extend the system. The results so far as our experience extended were most satisfactory, but we thought that the attempt to carry out the system to any large extent would be frustrated by the difficulty of finding many patients who were suitable objects for it, and by the additional difficulty of finding many people who were fitted to take care of them. We must freely confess, however, that our doubts on this point have since been removed by the knowledge of what has been done at Kennaway, and still more by the observation of the comfort and happiness of numerous poor chancery lunatics living in the rude homes of their friends in Welsh farmhouses and other country districts, the actual cost of whose care and maintenance is often not greater than that of the inmates of county asylums, while their clothes, cleanliness, and diet, and the general care and comfort provided for them, are certainly not superior to those which could be secured in the best cottages of the English agricultural labourer. Indeed, we have seen many chancery lunatics maintained in great comfort and happiness in English cottages, and *ceteris paribus* we believe their lot preferable to the poor insane who reside in more genteel residences where the means of support are small. Gentility costs so much, and is of so little real service, at least, to an insane person. We left our Devonshire trial of this cottage system in full progress in 1862, but, although it was not revoked so far as we had carried it, its extension was not attempted, and this must have been the origin of the report which we heard on the Continent, and which appears to have been communicated to Griesinger, that we had changed our opinion of its utility. Nothing could be further from the truth, seeing that if our opinions have undergone change it has been in the opposite direction of increasing confidence in the system and a higher appreciation of its merits; and we venture to affirm that notwithstanding the various theoretic objections which have been urged, no one who has ever tested by practical experiment the system of relieving our crowded asylums by placing carefully-chosen lunatics in cottages under the easy supervision of asylum officers, has ever had cause to regret the trouble he has taken, or to doubt the comfort and happiness of his emancipated inmates.

After we left Devon in 1862 Griesinger paid a visit to the

asylum, and wrote of our tentative beginnings of the cottage system in the following terms:

"Is this system of treatment practicable? It has been long in operation in Gheel with over a thousand patients, and in Scotland with several hundreds, and in the most satisfactory manner. In the Devonshire County Asylum an experiment on a small scale, by Bucknill, has been completely successful. What has been done there can also be done elsewhere. But the treatment of the patients? Can that be as good as in the close establishment, with its airy dormitories, its gardens, its water-works, its three meals a day, with butcher's meat cooked in the newest and most approved style? To this there is only one reply. Ask a patient under family treatment, who has formerly been an inmate of a good close asylum whether he would like to go back to it. The well-being of the individual, his real happiness, depends only to a small extent upon such things, but greatly upon emotional impressions. He who is not suitable for a close establishment, and for whom it is not necessary, regards it as a bondage, for the flesh-pots of which he never longs; and—he is right."

"It was there [in the Devonshire County Asylum] that I first saw it. I shall rejoice all my life over that evening, when my theoretical notions, in presence of these small beginnings, first gave way to the force of facts. 'Yes, it is not only possible but actual!' I could have exclaimed. The errors of years were destroyed in a single hour. And even if the thing were again given up in that place, and renounced by those who had instituted it, it has been working, and it will work for all time." ('Journal of Mental Science,' No. 65, p. 29.)

The Medicinal Treatment must be founded, not upon the general resemblance of symptoms in different cases, but upon their points of dissemblance, and upon the discrimination of ultimate diagnosis; not upon the primary diagnosis which recognises a case of Insanity, but *upon the ultimate diagnosis which, as nearly as possible, refers the symptoms of each individual case to the exact pathological condition from which they arise.*

The medicinal treatment of Insanity may conveniently be classified into that of the acute and of the chronic forms of the disease,—into that whose aim is curative, and that in which it is only palliative; and again, in the former, into that which is directed to the urgent symptoms of the outbreak in which the disturbance of the organization is a prominent feature, and that of the more tranquil period which often succeeds between the outbreak and the convalescence, in which, after the apparent subsidence of the physical disturbance, the various forms and derangements of the mental functions are often the only obvious symptoms of cerebral disease.

In the medicinal treatment of all cases of Insanity, the following objects have to be kept in view:

1st. To obviate any general derangement or diseased condition of the system.

2nd. To remove the pathological condition of the brain whether consequent upon, or independent of, general physical disturbance.

3rd. To treat urgent and dangerous symptoms.

Sometimes the measures adopted to fulfil the first of these intentions embrace the second also; for instance, where the measures adopted to relieve a state of general plethora or anæmia relieve the same state in the cerebral organ. Sometimes the measures required to fulfil the first and second intentions are to some extent antagonistic; for instance, where, with general debility of the system, there is a local hyperæmia of the brain, and leeches with cold lotions to the head are found to be practically consistent with the use of nutritious food and stimulants. Sometimes there are no indications to guide the treatment towards the first intention, and the second becomes the prominent one. This is especially the case in the second period of recent Insanity, and in the chronic forms of Insanity, where, in the absence of any general disturbance of the system, the symptoms fairly point to a pathological condition of the brain.

Sometimes, in the absence of symptoms either local or general the fulfilment of the third indication is the only one which can be attempted. Doubtless in every single case of Insanity there exists some pathological condition in the organ of mind; but in the absence of symptoms pointing to the nature of this condition, the physician must avoid interference which may be mischievous, and be content to temporise; must be satisfied with removing the causes of irritation and excitement, and retaining his patient in an atmosphere of physical and moral hygiene.

Bleeding.—In passing from these general principles to particular remedies, the question meets us, whether bleeding is ever permissible in the treatment of Insanity? Not without cause it was emphatically condemned by Pinel and Esquirol, and it would be easy to cite a number of authorities who have followed in their track. Dr. Pliny Earle has done good service to psychological medicine by the publication of his useful essay on this subject.

Before the time of Pinel, the insane were bled frequently and

promiscuously, and it was said the most beneficial results were derived from the practice. Pinel's condemnation did not put a stop to it, and we learn from Dr. Earle that his book was greatly needed in America, in order that some check might be put to the mischievous results of Dr. Rush's teaching on this subject. The French authors cited state that they have frequently observed cases which appeared to be curable, pass into incurable Dementia in consequence of venesection. It is no wonder that abuse of treatment so flagrant should result in an universal condemnation of it; and, in this country at least, the treatment of Insanity by general bleeding has passed into universal disfavour and disuse among all who can be considered authorities on the subject. The treatment of Insanity described by medical officers of asylums, in the "Further Report of the Commissioners in Lunacy," 1847, contains no instance in which general bleeding is recommended. We have never used the lancet in the treatment of Insanity, but we must admit that cases do present themselves in which we have felt it our imperative duty to use leeches to the temples and cupping to the nape of the neck, to such an extent that the effect on the general system would not be much less than that of a moderate bleeding. One ought always to be suspicious of an universal rule, and more especially so when it has been adopted in opposition to a previous rule of the same character to the contrary. It is very easy to save ourselves the trouble of thinking, by giving in our adhesion to a dogma; and the man who, at the present time, is most ready to affirm, with inflexible pertinacity, that in no possible case of Insanity is it right to bleed, would, had he lived seventy years ago, have been the very man most likely to affirm that no case of Insanity can be rightly treated without such bleeding. This, however, is not the spirit of philosophy, or even the courage of good sense which has the will and hardihood to think for itself. Men love to run into extremes; but when most in extremes, let us remember that they are never altogether right, and never altogether wrong. If, therefore, our forefathers were undoubtedly wrong in their abuse of the lancet, it is just possible that we are not altogether right in looking upon it as *taboo*.

Acute Mania is not divided from inflammatory action of the brain and its membranes by any sharply drawn recognisable line of demarcation. On the contrary, some few cases of meningitis approach very closely in their nature and symptoms to

the character of acute Mania; and some cases of acute Mania are accompanied by symptoms which indicate that cerebral Hyperæmia is so great in degree, and active in character, that a considerable abstraction of blood, by leeches or cupping-glasses, is the least that can be done with judgment to relieve it. Between the employment of local bleeding of this kind, and moderate general bleeding, no great question of principle can possibly exist.

Let it not be thought that the author recommends bleeding in the treatment of Insanity. The fact that, in the treatment of more than two thousand cases, we have never yet used the lancet, is perhaps a proof that we have been, to some degree, under the influence of the general prejudice. The principle advocated is this, that no manageable remedy ought to be excluded from the treatment of a large and diverse class of diseases. The infinitely varied conditions of disease demand the occasional employment of every influence which can be guided in its action upon the organization and its functions. No physician will act wisely in definitely rejecting the use of any manageable force of which he has knowledge, and therefore he will be disinclined wholly to expunge bleeding from the list of remedies which may be successfully employed in combating acute cases of Mania. General bleeding we cannot advise, but local bleeding by leeches to the temples or cupping to the nape is to be justified when, in addition to the symptoms of acute cerebral Hyperæmia which are not uncommon in acute Mania, to heat of head, suffusion of eyes and face, throbbing of carotid and temporal arteries, &c., there are superadded the symptoms of inflammatory action within the cranium, together with accompanying febrile reaction. Such symptoms are presented by irregular contraction of the pupils, by squinting, by convulsive twitching of the muscles of the face and arms; by a hard, full, and bounding pulse; with hot and dry skin, and the general characteristics of synocha. That such cases occur very rarely is the greater reason why the practitioner should be forewarned that they do occur; since their prompt, active, and judicious treatment is a matter of life and death.

Tartrate of Antimony.—There has been almost as much difference of opinion, of late, respecting the mode of using, and the benefits to be expected from, tartrate of antimony, as on the subject of bleeding. Dr. MacFarland, at the last meeting of the American Association of Alienist Physicians, said, he had trusted

that tartrate of antimony was "lying in the same grave where venesection had been buried long ago."

The late Dr. Burrows speaks of the benefits to be derived from its use, and mentions the large dose of thirty grains to have been given without producing vomiting. In the "Further Commissioners' Report," above referred to, a large proportion of the reporters mention this drug with approbation. Many writers state, that the benefits to be derived from it are procured by keeping the patient in a state of nausea, and thus overcoming his tendency to acts of violence.

It is to be feared that this drug is not always used in asylums for definite medical purposes, but that it is frequently employed to aid in preserving quiet, by overcoming the demonstrative vehemence of choleric and turbulent patients; that it is, in fact, used as the wretched wives of labouring men in the manufacturing districts use it on their drunken husbands, under the name of "*quietness*," to produce physical depression, and thus avert outbreaks of anger and violence. In a trial of a woman for murder who had, with this intention, given her husband an over-dose which had proved fatal, the extraordinary fact was elicited from druggists and others, that the administration of tartrate of antimony in the domestic broth or tea has become quite a habit among the artisan class in the North of England; and that women buy their weekly quantity of "*quietness*" at the druggists' shops, as regularly as they lay in their weekly store of other every-day articles of consumption. It is to be feared that this pernicious habit prevails to a great extent in many asylums, and that "*quietness*" is given to lunatic patients when there is no real medical indication for the use of tartrate of antimony. It may not always be easy to draw a line of strict demarcation between the medical treatment of the insane, and measures adopted for their discipline and control, but it should be always attempted; and, as a rule, the physician should steadfastly refuse to prostitute the resources of his art to any meaner purpose than a struggle with the well-recognised symptoms of disease. One source of mischief which a different line of proceeding entails is, that it throws suspicion and opprobrium upon important remedies, even when they are used for purely medical purposes. In this manner, the shower-bath and tartarized antimony have suffered in character as remedial agents in the treatment of Insanity; and it requires no inspiration to be

enabled to prophesy that opium which, rightly used, is the right hand of the physician in the treatment of Insanity, will, ere long, be in danger of falling into disrepute, with the timid, for the same reason.*

We have used tartrate of antimony, in some cases of Mania, with the happiest results; our aim not having been to produce nausea and depression; and when these results have followed its use, our experience is that little benefit is to be expected from the use of the drug. The benefit to be derived from it appears indeed to bear a close relation to the tolerance which the patient has for it. If a maniacal patient can bear a one or two grain dose of tartrate of antimony, three times a day, not only without suffering from nausea or purging, but with the enjoyment of a good appetite for food, the drug will, in all probability, be beneficial. The cases in which this tolerance exists, and this benefit may be expected, are not those in which there is much heat of head, accompanied by sleeplessness and a feverish condition of the system. In these, the treatment by leeches and warm bathing is far preferable to the use of antimony, which, indeed, they rarely bear well, or are improved by. The best cases for the tartrate of antimony are those in which the symptoms of acute Mania are accompanied, in men of robust constitution, with little general disturbance of the physical health; patients whose head is not hot or cool, who look well in the face, have a strong, good pulse, have a good appetite, and sleep well,—the mental symptoms being those of excessive turbulence, pride, anger, &c.; patients who are always in contention, or desiring or endeavouring to perform some feat of strength; patients who appear to enjoy superabundant vital energy. This condition, which is not a common one, but which occurs sufficiently often to make its recognition of great importance, is one of recent disease, although it is open to doubt whether it ever is the primary form of Mania. Probably it is always preceded by a period, more or less brief, in which the symptoms of cerebral Hyperæmia exist. These subside, and the symptoms above described take their place. The pathological condition of the cerebral organization in these cases can only be matter of surmise. It seems probable that it is one of molecular

* Since the above was written this apprehension has been fully justified by the attack upon the use of opium in the treatment of Insanity which was so ably made in Dr. Maudsley's Presidential Address of 1871.

change of great but irregular activity; one in which the processes of cerebral exhaustion and regeneration, of decay and repair, are energetic, but in which they have escaped from the rules imposed upon them by the habits of health. That such cases recover under the administration of tartrate of antimony, which neither produces in them nausea nor depression, is a fact of which we have had the most convincing and satisfactory experience.

Mercury.—The use of calomel, in the treatment of Mania, is yet more limited than that of tartrate of antimony. As a rule, it is a medicine to be avoided, on account of the irritability of the nervous system which it tends to produce. Five grains of calomel, however, in combination with ten of compound extract of colocynth, or fifteen of jalap, may be given as a purge when the skin and conjunctiva are dusky and bilious; and the milder preparations of mercury may be given in alterative doses, when the state of the tongue and the evacuations indicate the need of a stimulating action upon the liver. Mercury has, by many physicians, been freely given to produce ptyalism in Mania. In our opinion, however, this treatment only ought to be followed in the most exceptional cases; the great nervous irritability caused by mercurialization being the very opposite condition to that we should desire to induce in the treatment of mental disease. A few cases, however, do occur in extensive practice, in which the full powers of mercury may fairly be tried. When a patient has passed from a state of acute into that of chronic Mania, which, in spite of treatment, threatens to become permanent; when this state of affairs is accompanied by local heat of the head, sometimes also with a hard pulse, we have given the patient the chance which appeared to be afforded by mecurialization, and, in some very unpromising instances, with the best results. We have known such patients improve greatly under the influence of a grain of calomel, given two or three times a day, so as to produce ptyalism. In several instances the ptyalism did not come on until considerable improvement in the physical and mental symptoms had taken place. In the use of this drug it does not occur as in that of the last mentioned, that tolerance is an indication of its utility. We have known very large quantities of mercury administered without touching the gums, and without producing any improvement. In the conditions above described, the probability of success will sometimes be aug-

mented by small losses of blood from the temples, leeching, or by a seton in the nape. In the cases, however, above referred to, the calomel was not thus assisted, and the apparent benefits which resulted from its use were the less open to question. Instead of calomel, in these cases, we have occasionally used the bichloride of mercury, but not with the same success. We have also used this preparation in the earliest stages of General Paralysis, as recommended by Dr. Sutherland; but, in this form of disorder, we have never seen any obvious improvement result from it.

Opium.—The right employment of opium in the treatment of insanity is a question whose importance is inferior to none in the whole range of psychological medicine. Many of the early writers on insanity, however, condemned the use of opiates and narcotics generally. They had observed that the mental symptoms were generally exaggerated after natural sleep,—an observation which it is easy to verify in any case of hyperæmic mania, in which short and fitful sleep takes place. They had also probably given opium in cases which were not fitted, or were not prepared for it, and they had observed that increased excitement followed such use of the drug. They had not learned to discriminate the conditions of mental disease in which opium becomes a true balm to the wounded spirit,—a sedative in mania, a restorative in melancholia; sometimes even a tonic, augmenting appetite; sometimes even an aperient, regulating the sensibility, and restoring efficient peristaltic action to the intestines.

Van Swieten mentions a case in which a scruple of opium dissolved in vinegar was taken accidentally by a maniacal patient, on whom this single dose effected a cure; and he afterwards employed this drug freely, but never went beyond fifteen grains.

The use of opium in mania is said by Esquirol to have been due to an accident: A lunatic got possession of and swallowed an ointment which contained 24 grains of opium, and having been cured by the narcotic thus unadvisedly taken, the attention of medical men was particularly directed to the use of this drug in insanity. Valsalva and Morgagni prescribed it, and Péry cured maniacal patients in whom there was much insomnia with large doses; he carried his doses as high as sixty-four grains in the twenty-four hours ('Esquirol,' tom. ii, p. 214).

The use of opium in the different forms of insanity has long

been known to English practitioners. Ferriar gave grain doses of the aqueous extract in Melancholy, twice a day, with success, and was thus the precursor of the morphine treatment of this form of mental disorder, which at present enjoys so much favour; he generally combined it with bark. Halloran recommended its use in the first onset of the disease, which he believed was capable of being occasionally cut short by a full dose. After insomnia for two days, he has given 240 drops of the tincture of opium, the result of which was heavy sleep, lasting for nearly twenty-four hours, and terminating in complete recovery. Willis objected to opium, because it causes constipation, and sometimes increases watchfulness. A case is mentioned in Darwin's 'Zoonomia,' in which an insane patient was cured by Dr. Binns, by two doses of opium—the first containing two scruples, and the second administered after an interval of four hours, containing one scruple. Dr. Brandreth also records a case of acute mania, cured by 400 drops of tinc. opii. Macintosh, in his 'Practice of Physic,' states that injurious effects have followed the administration of opium in Insanity, from want of discrimination in the selection of cases for its use, and from the insufficiency of the doses used. In cases where there was great irritability and insomnia, and there was no evidence of permanent organic lesion of the brain, he has seen the best effects result from 80 to 100 drops of laudanum, given every third hour.

Dr. Pliny Earle, an eminent American alienist, writes :—"I employ narcotics to a considerable extent, and believe them to be the most effective, or among the most effective, agents in the treatment of insanity. Laudanum, and the sulphate of morphine in solution are more employed than any other; even in cases of acute Mania they may often be administered with utility in a much earlier stage of the disease than has been supposed. Of the first, I generally begin with twenty minims, three times a day; and carry up the dose, so rapidly as the patient will bear it, to one, two, or three drachms, three times a day, according to the necessity of the case. I rarely exceed one drachm and a half or two drachms."

Cullen gave opium in large doses. Of the continental physicians, Guislain appears to have used opium in Mania most freely; the dose should be large, although he thinks it best to commence

with two grains, which he augments to ten, fifteen, or twenty, according to the symptoms induced.

Esquirol remarks, that the ancients made great use of narcotics, in the treatment of Melancholia; and he recommends these remedies, and especially opium, in that form of Melancholy which is vulgarly called nervous,—*Mélancolie sans Matière* of Lorry. He remarks, that Odier used opium for this purpose, and that, in 1816, he published a case of Melancholy, which he had cured with opium, the dose being gradually carried as high as thirty grains, combined with an equal quantity of musk.

The person who appears to have most contributed to the re-introduction of opium in the treatment of Insanity was Dr. Shute, of Gloucester, and we learn from Prichard's Treatise, that tincture of opium, combined with sulphuric æther, or Hoffman's anodyne, was extensively employed in the treatment of the patients in the Gloucester Asylum. Subsequently, Dr. Phillips used opium frequently and successfully, in the treatment of Melancholia, at the Bethnal Green Asylum. Dr. Seymour, the eminent physician to St. George's Hospital, having visited the Bethnal Green Asylum, and seen the beneficial results of the opiate treatment, used it himself in private practice, and made known the excellent results he had obtained from it in the 'Medical Gazette.' From that time the opiate treatment, both in Melancholia and Mania, has gradually undergone development, until, at the present time, the skilful and discriminating use of this drug may truly be called the sheet-anchor of the alienist physician.

The beneficial use of opium commences even before mental disease has become actually developed; and Dr. George Johnson has done excellent service in pointing out the great use of this drug in the prophylaxis of Insanity, in his Lectures published in the 'Medical Times,' in the year 1853.

The chief objects of these Lectures was to give a description of those slighter derangements of the nervous system out of which, in a certain proportion of cases, the more formidable diseases of the mind are gradually developed. The field of observation was extensive hospital and dispensary practice amongst the London poor, affording abundant opportunities for observing their habits and habitations, and for obtaining a knowledge and a record of

many of their family histories. The results at which the author arrives are :—

1st. That in a large proportion of cases, the more formidable derangements of the nervous system have their origin in some form of mental shock and anxiety.

2nd. When the nature and origin of these nervous disorders are detected sufficiently early, the more serious forms of disease may often be prevented, aud the slighter derangements entirely recovered from.

3rd. The method of treatment best adapted for the prevention and cure of the disease in question admits of some variation in different cases, according to the nature and the cause of the symptoms ; but there is one remedy, which, when given in the mode and with the precautions indicated, is more efficacious than all others combined. *That remedy is opium.* The form in which it was prescribed is :—Pil. Saponis co., gr. v, h. s., which moderate amount of the narcotic combined with exercise in the open air and tonics, appear to have been sufficient in Dr. Johnson's hands to procure refreshing sleep, removing the wearing effects of months of anxiety and restlessness, and to operate as an efficient prophylactic against mental disease.

Delirium tremens, which, without being nosologically included among the *phrenesiæ,* is undoubtedly a transitory form of Insanity, is cured by opium. In those instances of the disorder which occur in habitual drunkards when their customary stimulant is withdrawn, the drug requires to be aided in its operation by alcoholic stimulants ; but, in those instances which follow long-continued watching, combined with mental exertion, or moral anxiety, opium alone, in such quantity as will ensure sleep, is the sole and almost infallible remedy. The transition is easy from delirium tremens to an important class of *maniacal* cases—Mania with pale face and weak pulse, with restless activity, and utter want of sleep, —and in these cases the preparations of opium or morphia are most beneficial.

Their operation in effecting a cure is, however, greatly aided by that of other remedies, especially by warm bathing, by aperients when needed, by stimulants and nutritious food. The following will briefly illustrate the nature and treatment of this common case.

J. B—, a tradesman in good circumstances, for some years past given to a dissipated

course of life, the frequenter of taverns and theatres. Owing to a reverse in business, he suddenly gave up his dissipated habits and remained at home, his business being conducted principally, as before, by his wife; he became low-spirited, moping, and lost sleep at nights. Suddenly this state changed to one of wild, maniacal excitement, requiring his immediate seclusion in an asylum. His face was pale, and covered with a clammy sweat, the expression that of wild terror, the forehead cool, the pulse feeble and quick. Ordered—Tinct. Opii, ℥xl; Ætheris Sulph., ℥xx, 4tis horis.

In a week from admission this patient was convalescent; he had obtained some sleep from the first night, and the duration of sleep gradually increased. After recovery he told us, that during his illness the idea that he was about to be hanged was constantly present in his mind.

J. C—, a single man, in easy circumstances, of steady and temperate habits and cheerful disposition; his brother has had Melancholia. Without any known cause, a change was observed in his manner and mode of life; he neglected his usual pursuits, and moped about, silent and abstracted; then he became restless, walked about his bedroom all night long, and refused food. This state of things was allowed to continue so long that, when called to see him, we found him very nearly at death's door; his teeth and tongue were covered with sordes, his breath had the fœtid odour of a starved person, his face was of ashy paleness, his forehead cold and clammy to the touch, his pulse thready, and his body emaciated; he was reported to have had no sleep for a fortnight (this was probably an exaggeration), to have taken very little food for the same time, and none for the last three days. Wine and beef tea were given every hour; and after these had produced a slight evidence of reaction, half a grain of morphia was administered. This treatment had the effect of somewhat improving the appearance of the patient, and calming his restlessness; a repetition of the opiate produced a few hours' sleep. The morphia was continued twice a day, and the improvement of the patient was evident from day to day. The bowels were first acted upon by aloetic injections; and when returning strength rendered anything like purgation less dangerous, rhubarb and grey powder were given twice a day. In five days the patient was able to walk in the open air, leaning upon the arm of an attendant. When first seen he was unable to articulate; but, when returning strength enabled him to do so, he gave expression to his delusions, which were—that he had no existence; that the person called J. C. was quite destroyed; and that he was nobody, and nothing. These delusions subsided, as the patient gained good nights of sound sleep; and the long convalescence which followed was principally marked by mental and physical debility.

In this case the use of opium would, we think, have been dangerous, unless combined with the free use of wine and nutritious food. It would probably have rendered the respiration,—already feeble from inanition,—still more feeble, and thus have extinguished the flickering lamp of life by impeding the calorific process, already at a low ebb for want of fuel. Food and stimulants were the first essentials; and these were administered, in opposition to the little force which the patient could employ, by feeding him with a spoon, like a reluctant child. It may be doubted whether the food and stimulant alone would not have

effected the restoration of the patient; but the great improvement which followed the first few hours of sleep, and which continued to follow every period of sleep, seems to point to the opiate as a remedy of at least equal importance. According to our experience, these cases with symptoms resembling typhus recover if they can be kept alive. The febrile condition appears to be the result of want of sleep, and total want of food. In cases of Melancholia, or Monomania, where absence of food has not been complete, but has been continued during a much longer period of time, and in which the patient has not entirely been deprived of rest, the appearances, though less threatening, are far more dangerous; there is an absence of the typhous appearance, the sordes of the mouth, the stupid look, the pale clammy skin, and restless motion: on the other hand, the body is far more emaciated, the skin, instead of being pale and clammy, is harsh and dry; the expression of eye and feature is not stupid, but anxious. Opiates are not generally found to agree with such cases. The question with them is one of feeding; sometimes, however, after a long abstinence, food is taken well, and even ravenously, but it appears to do no good. Many such cases, however, in spite of every effort made to save them, gradually sink and die of inanition.

There may be some doubt as to the correct nosological position of the above cases; some would incline to place them in the class of Melancholia, or more strictly, perhaps, in the sub-class lypemania (Mélancolie avec delire). But, notwithstanding the nature of the delusion, and the predominance of the depressing emotions, they appear to us to have a closer alliance to Mania. The leading delusion is indeed, generally melancholic, but there is that general derangement of all the intellectual functions—of attention, perception, comparison, imagination, &c.—which can only be recognised in Mania, the essence of which is a disturbance of all the mental functions, and a complete confusion of all the ideas. They appear, indeed, to furnish the connecting link between delirium tremens and Mania; and it is on this account that we have given them precedence, in discussing the treatment of mental disease principally by means of opium.

The opiate treatment of the more ordinary forms of Mania, namely, those distinguished by the excitement of pride and the combative propensity, requires a nice discrimination of the pathological condition. Opium may be most useful to one patient, who

is arrogant, turbulent, violent, and most prejudicial to another with the same mental symptoms; it may be most useful to the same patient, during the prodromic and first period of an attack, injurious during the second period, and again most useful when the symptoms of cerebral congestion have been allayed by other remedies.

As a rule, opiates are inadmissible in Mania so long as cerebral hyperæmia exists—either alone, or in conjunction with general plethora. When circumstances permit, these should be reduced before opiates are administered; but frequently this rule cannot be strictly followed. The commonest maniacal condition is that in which the pulse is by no means full or strong; but the head is hot, the eyes are injected, and the existence of active cerebral congestion cannot be doubted; the patient is restless and violent, and without sleep for many nights. In such a case the physician is called upon to determine between two evils. Morphia or opium, prematurely given, will increase the cerebral congestion, and do mischief. Too long delayed, equal, or greater mischief, will result from the want of repose. The violence, restless agitation, and sleeplessness of the patient, will perpetuate a degree of hyperæmia which a judiciously administered dose of morphia will often allay. There is great risk in laying down rules, but, as a general rule, after a patient has been without sleep for three nights, a full dose of morphia ought not to be withheld, notwithstanding heat of head, and other symptoms of cerebral congestion.

Practically, the physician finds himself in many cases compelled to give morphia, and to use remedies to reduce cerebral congestion concurrently by applying six, ten, or twelve leeches, to the temples, followed by cold lotions to the shaven scalp during the day, with or without an aloetic purgative, according to the state of the tongue, and the strength of the patient. This may be followed the same evening by a warm bath, with the cold still continued to the head, a full dose of black drop or morphia being given the last thing. Such treatment frequently has the most satisfactory results; the patient gets several hours of sound and refreshing sleep, and a modified repetition of the treatment, continuing the antiphlogistic or the narcotic remedies, according to the progress of the symptoms, results in a rapid cure.

The reader will find, in the Appendix, the brief records of several cases, illustrating the treatment both of the common forms

of mania and of those whose management is beset with difficulty and peril. These cases it was at first intended to insert here and elsewhere in the body of this work; but it has been thought best to throw them together in a short collection of cases, apart from the principles of treatment which they tend to illustrate; since it must be remembered that doctrine never quite tallies with practice, either in medicine or in any other of the arts of life.

When a patient succumbs after the employment of energetic and complicated treatment, it is generally impossible to estimate, with any degree of accuracy, the relative share which the disease and the remedies had in the fatal result; and one can only guess at the part which any particular medicine has played. Doubtless every patient who dies under the hands of a physician (that is, of one really such, and neither a homœopathic sham nor an expectant pedant), dies partly of the remedies employed. Had the disease not been resisted, the chances of avoiding death would have been greatly diminished, and the event itself might have been much earlier; but it would not have taken place in exactly the same manner—it would not, therefore, have been the same death. Hence the assertion that the death of a patient, to prevent which active remedies have been adopted, is the combined result of the disease and the remedies; as the oblique fall of a tree, which has been propped on its heavy side, is the combined result of wind and the direct pressure of the ineffectual prop. Now there is, in certain cases of mania, a tendency to death from asthenia,—a tendency which Esquirol pointed out, attributing it to exhaustion of the sensibility. Opium is powerfully influential in lessening this danger if it takes good effect on the system, and procures restorative sleep; but if the pathological condition is too profound for the remedy, and large doses of opium are administered without procuring the desired effect, the depressing influence of the ineffectual drug, which, in voiding its desired function, becomes a powerful sedative, is added to that of the disease, and the tendency to death from exhaustion is greatly increased. In most cases of this kind, death would have taken place from asthenia following long-continued sleeplessness, without any aid from the narcotic. Still the danger to be apprehended from this operation of opium, and especially from the salts of morphine, is one that is of much importance to be recognised. The knowledge of it has often withheld our hand from giving

heroic doses of these narcotics, when the urgent need of procuring sleep at almost any risk would otherwise have indicated their use. The operation of opium on the diseased nervous system is very remarkable. The enormous tolerance of it in many states—for instance, in hydrophobia and tetanus—and to a less extent in severe neuralgia and other affections accompanied by intense pain, is well known. There is also a most singular intolerance of it in some other diseased states of the nervous system, which we have never yet seen adverted to. Our attention was first called to it, twenty-seven years since, by the following circumstances: a badly-situated and damp asylum ward was occupied by idiots and demented patients; the result was a dysenteric outbreak, which, in several cases, proved fatal. An eminent physician, whose advice we took respecting the treatment of the dysentery, recommended the rather free use of opium, in the form of mixture and suppository. The effect of the drug on three demented patients was most remarkable. The opium took no effect upon the cerebrum proper, but exerted the most depressing influence upon the excito-motory apparatus. The respiratory movements became more and more slow; the temperature of the body decreased, the pulse failed, and the patients sank with the general symptoms of abolition of nervous power without narcosis upon the mental functions. There was no coma nor stupidity, the patients being fully awake to the last. Several other patients presented slighter degrees of this curious state, from which they were recovered by stimulants; but, in the three cases mentioned, the powers of life were already so much reduced by the dysentery, that the asthenia without coma proceeded, in from eight to twelve hours, to a fatal termination. In many instances, since this occurrence, we have seen the tendency to depression of the nervous power without coma, when opium has been administered to patients, the condition of whose mental faculties showed the existence of considerable cerebral atrophy; and it has taught us to be extremely cautious in the administration of opium in advanced Dementia and in General Paralysis.

The state of the brain which leads to death from opiates without coma, and which seems to be a mixture of asphyxia and asthenia, occurs in other conditions besides that of cerebral atrophy. Something like it is occasionally to be seen in the treatment of delirium tremens. The patient struggles to free himself from the

enemies who surround him, the imps or murderers who threaten him, the snakes who fill his bed. Dose upon dose of opium has been given, in the constant hope that each dose will succeed in procuring the curative sleep. All at once the patient falls back. His breathing becomes embarrassed, his pulse fails, and in a very short time he is dead. The asthenia in this case is sudden, taking the form of syncope; but there can, we think, be little doubt that the fatal result is due to the same cause—the depressing effect of the drug upon the spinal nervous system, assisted by the nervous exhaustion due to the disease. Had the narcotic effect of the drug taken effect upon the brain, its sedative effect upon the excito-motory system would have been obviated.

These considerations apply probably to the cases above cited. The pathological condition of the cerebrum, which occasioned excitement and forbade sleep, was too profound to be overcome by the narcotic. The drug, therefore, operated as a sedative upon the spinal system, and accelerated that exhaustion of nervous power under which the patients sank.

It is extremely difficult to recognise the cases in which the danger of such a termination of treatment exists. It is to be hoped that they are cases which, under any treatment, could not have been saved, as they probably are cases in which the pathological changes in the cerebrum are profound. If it is permissible to estimate the severity, or even the nature of a pathological condition, by the degree to which it withdraws the system from the ordinary operation of remedies, the pathological condition of the cerebrum which tolerates otherwise poisonous doses of opium without coma or sleep, is one from which an unfavorable prognosis may with good reason be derived. This method of estimating pathological states has the high sanction of Marshall Hall, who proposed the tolerance of loss of blood as the foundation of a practical system of diagnosis. The tolerance of opium may, on this ground, be one means of prognosis in mania. If large doses produce no effect upon the cerebral functions, death from exhaustion may be feared. In some cases this event cannot be obviated; but in others, the free administration of diffusible stimulants and of wine, the outward application of dry heat, and other similar remedies, may ward off imminent asthenia. In some cases the danger will not be seen before it is too late to make any attempts to turn it aside. In acute Mania, as in some cases of delirium

tremens, the patient continues agitated, restless, and sleepless; dose after dose of some opiate is administered, in the sanguine hope that each dose will be successful in causing sleep, and therefore the last required. The most watchful attention can sometimes detect no symptoms of failing power before the administration of the last dose; after this has been given, power fails rapidly, and all efforts at restoration are vain.

In a valuable paper contributed to the 23rd Number of the 'Journal of Mental Science,' Dr. Noble, of Manchester, has pointed out the danger which exists of producing fatal *coma* in the treatment of insanity by full doses of opium; and he has well pointed out the indications by which this danger may be avoided. In our own practice we have not hitherto met with such cases; an immunity which we are inclined to attribute to the selection we have made of the cases for full opiate treatment having been somewhat different; so that the danger has presented itself to us under a different aspect—no doubt because there was a stronger original tendency in the diseased condition to pass into that of nervous exhaustion than into that of fatal coma. That full opiates were occasionally followed by comatose sleep of a dangerous character was not unknown to our predecessors. Thus, in Halloran's case, above cited, the patient passed twenty-four hours in an apoplectic kind of sleep which could not have been unattended with danger.

Opiate Treatment of Melancholy.—In the form of disease called acute Melancholy, the pathological conditions appear to be identical with those of acute Mania, in which there is want of power and tone in the system. The difference in the mental symptoms which gives rise to the difference of name is dependent upon the preponderating activity of the depressing emotions, accompanied and stimulated by delusions which cause extreme terror. This difference of mental symptoms, which arises from no fundamental difference in the nature of the disease, calls for no alteration in the medicinal treatment. The moral treatment, indeed, has to be carefully adapted to these emotional peculiarities, when moral treatment becomes possible; but, in the first outbreak of acute Melancholia, when the patient sees in the physician a stern judge, in the attendants his executioners, in the chaplain a diabolical personage; or when he believes that he has himself destroyed the world, and all that it contains, and is now himself to be destroyed;

when he has not slept for many nights, and has not taken food for many days; moral treatment of any kind is impossible; the patient must often be placed in bed, and attended with soothing and gentle words, the natural expressions of sympathy which his wretched condition would elicit, but of which he almost invariably appears as little conscious as a patient in the terrors of delirium tremens is conscious of explanations that his fears are unfounded. Such cases must be treated in exactly the same way as cases of Mania. Usually, but not always, they are unattended by general plethora; usually the head is more cool than hot; there is sometimes great insomnolence; the opiate treatment, therefore, is as often essentially needful in acute Melancholia as in acute Mania; it is attended by the same risks, and must be guided by the same rules.

In the treatment of Melancholia with delusion,—the lypemania of Esquirol,—opiates are not always admissible. They are needful in proportion to the existence of irritability and a depressed condition of the cynæsthesis, in which, if there is not actual Insomnia, there is very rarely a sufficient amount of sleep. In these cases the best form of opiate we have found to be the combination of the tincture with sulphuric æther, from 20 to 30 minims of each being taken two or three times a day. A frequent curious effect of the opiate in these cases is, that it not only does not tend to constipate the bowels, but that it regulates and promotes their evacuation. In a number of instances we have observed this, and we have tested its reality by omitting the opiate, and finding that the regularity of the alvine evacuations was discontinued. The only explanation which we can offer is, that, by promoting a more healthy tone of the whole nervous system, the opium, in such cases, promotes the peristaltic action of the intestines.

In Melancholia without delirium, Emotional Insanity in its depressed form, opium, and especially morphia, are invaluable. Combined with hygienic regulations addressed to the mind and the body, morphia exercises over these forms of diseases the most powerful and satisfactory influence.

A gentleman of high endowments, and culture, single, of studious habits, having lived in a secluded part of the country, became gradually melancholic from ennui and want of mental excitement. When placed under our care he had refused food for some time, under the double delusion that he could not afford it, and that there was

no room for it in his stomach; he was emaciated and weak, and slept very little, not more than one hour in the twenty-four; the bowels were habitually constipated, the tongue foul, and the breath fœtid. A teacupful of a mixture of beef tea and good port wine was given him with a feeding-spoon every three hours during the day, a grain of muriate of morphia was given every night, and five grains of aqueous extract of aloes every morning. Improvement rapidly followed; in a month the patient was able to walk seven or eight miles a day, and the delusion had disappeared. A feeling of shyness, and want of volition, remained for many months, but yielded to gradually extended intercourse with society.

Sometimes a perverted emotion, which has become apparently fixed and incurable, is held at bay by the beneficial influence of morphia. The following is a remarkable instance:

M. L—, æt. 56, was the wife of a carpenter, who, in repairing a nobleman's mansion, fell to the ground and was killed. From this and other causes of mental distress she became afflicted with suicidal Melancholia. When in the asylum she made several attempts at suicide, and the desire appeared to be always preying upon her mind. Morphia was administered—at first in one, and then in two-grain doses, at night, with the result of overcoming every manifestation of the propensity. Under the larger dose she became actually cheerful. When it was diminished she again became depressed, but not suicidal. At the request of Lord F— she was discharged from the asylum, to be placed with her daughter, a schoolmistress, Lord F— providing liberally for her maintenance. Here she has become a regular morphine-eater, the smallest dose she can subsist upon being eight grains a day. Many attempts have been made to diminish this expensive, and, to a poor person, extravagant medicament, but with the constant effect of producing melancholic symptoms. While taking eight grains a day of muriate of morphia she enjoys good health, the tongue being clean, the pulse good, and the spirits equable, though always tending to depression. This poor woman cannot, therefore, be placed in the category of mere opium drunkards, in whom the drug produces baneful effects, not only on the mind, but also on the physical functions.

In one respect the above case is exceptional, it being rarely needful, in cases of depressed Emotional Insanity, to administer more than one grain of morphia at bedtime. The beneficial effects of this mode of treatment have been amply illustrated by Dr. Seymour, to whose papers in the 'Medical Gazette' and the 'Medico-Chirurgical Transactions' we must refer our readers for additional examples.

When morphia produces sickness, pills or solid opium may be substituted; but, as a rule, in these forms of Insanity, the muriate or acetate of morphia is preferable to any other preparation.

Hypodermic injection of the muriate of morphia we have employed with good results, and our favorable experience has been since confirmed by other observers. Thus used, it appears to act

more powerfully on the system than when taken into the stomach, since we have found half a grain injected into the subcutaneous cellular tissue of the inner arm produce sleep, after double the quantity had failed when taken by the mouth. A paper upon this mode of administering morphia in Insanity by Dr. McIntosh, of the Perth Asylum, will be found in the 'Journal of Mental Science' for October, 1861. Dr. McIntosh uses acetic acid to dissolve the needful quantity of acetate of morphia, subsequently neutralizing the acid with liq. potassæ. We have found it better to dissolve the muriate of morphia in boiling water, which will readily take up four grains to the fluid drachm, of which solution from fifteen to twenty minims may be injected. This is certainly a very convenient method of administering morphia in Insanity: the puncture is so trifling that it does not appear in the slightest degree to alarm the patients, and in agitated cases the little operation can be performed much more readily than a dose of medicine can be given by the mouth. It has also the great advantage of disturbing the stomach and parching or furring the tongue much less than when morphia is taken by the mouth. Dr. McIntosh met with one case of dangerous coma from its use in a patient who had cardiac disease. We have not ourselves as yet observed the production of any unpleasant symptoms by it.*

In some cases, all preparations of opium are found to disagree; sometimes they produce constant sickness, with anorexia; sometimes they fail to produce the effect desired—they increase irritability, but do not induce sleep. Such cases are not numerous; and we possess no means of determining beforehand in what instances these difficulties will present themselves.

Hyoscyamus.—When such cases do occur hyoscyamus may be tried; the doses, however, of this medicine usually prescribed are far too small; as a narcotic, we consider two drachms of the tincture of hyoscyamus a minimum dose; most frequently we prescribe four drachms, and occasionally six or eight drachms, combined with one drachm of compound spirits of ammonia or half a drachm of sulphuric æther.

We have never seen the slightest reason to regard the administration of this medicine, in these large doses, as attended with

* See 'West Riding Medical Reports,' vol. i, p. 153.

any special danger. Doubtless it has a virus, since it possesses an unquestionable virtue; but, with common care, it appears a safe narcotic. The most serious objection to it, according to our experience, is that it soon loses its influence, and that, although it often relieves sleeplessness for a time, patients seldom pass into a state of convalescence from its use. It is a temporising medicine, with virtues far inferior to the opiates.

The value of hyoscyamus as compared with bromide of potassium and chloral has been carefully tested by a series of experiments conducted by Dr. Campbell of the Cumberland Asylum, and recorded in a paper which he read to the Medico-Psychological Society in 1871. 'Journal of Mental Science,' No. 80.) The results he obtained were that two and a half drachms of tincture of hyoscyamus were equivalent to thirty grains of chloral. He considers hyoscyamus a sure sedative in maniacal excitement, although chloral acts more quickly, and that bromide of potassium is only an hypnotic to a certain extent, not being sufficiently powerful to allay intense excitement, or to compel sleep where great insomnia exists. The method Dr. Campbell adopted was to give to sleepless patients on consecutive nights the following doses of the three drugs: Tr. hyoscyami ʒii; Potas. bromid. gr. lx; Chloral gr. xxx. We could wish that opium had been included in the comparison. The result, however, is favorable to hyoscyamus as an important sleep producer.

We have tried many other narcotics, and reputed narcotics, in the treatment of Insanity, especially stramonium and belladonna, and the new drug, Indian hemp. Others have obtained, or thought they obtained, great benefit from these drugs. The conviction, however, which fair experiment has left on our mind is, that in the treatment of Insanity they are, in comparison with opium, or even with hyoscyamus, of little value.

The *rôle* of stramonium is in asthma, that of belladonna in tic and iritis; but who would ever prescribe them to produce sleep, except by removing some symptom which prevents sleep?

Conium either in the form of the succus or as an alkaloid has been used largely by Dr. Crichton Browne, and a paper of great physiological, if not therapeutic, interest and value on its action, by Dr. Burman, will be found in the 2nd vol. of the West Riding Reports. One thing, however, only seems certain, that different preparations of either the succus or the alkaloid are most uncertain. Dr. Burman

says that conia varies so much in different specimens that too much caution cannot be observed in the use of a new specimen, until its strength is ascertained. This quality alone appears to us to disqualify conia as a medicine we can trust. Dr. Sherlock, of the Worcestershire Asylum, in his last Report, mentions that he has tried the succus conii in several cases without success. "Most of the cases continued to use this drug for about two months in gradually or rapidly increasing doses, but in none to whom it was given was there any appreciable subsidence of the excessive mobility and irritability of the muscular system, nor any relief from the state of Mania observed. In some of the cases the course of the attack became more alarming, and after a fair trial the use of this agent was discontinued."

A considerable proportion of the cases in which opium is most useful require the aid of stimulants, either medicinal or dietetic, of highly nutritious food, and a tonic regimen, to re-establish mental health. Even the cases which require leeches to the temples, and cold lotions to the head, sometimes need the frequent use of wine and beef tea very soon after, if not concurrently with, these remedies addressed to local hyperæmia. It is with these, as with many cases of typhus in which the general strength of the system has to be maintained by wine and beef tea at the very time that local congestions, tending to inflammations, require to be obviated by local measures. The statement of this necessity in general terms is all that is possible; the practical application of it can only be learnt by careful clinical observation. The task of restoring the balance of circulation and functional power between an excited and hyperæmic organ, and a depressed state of the general system, is one of the most delicate and difficult which falls to the lot of the physician. If local depletion is used too freely, it tells injuriously upon the general powers; if wine and nourishment are administered too early, or too largely, they augment the local mischief. In many cases of recent Mania, or Melancholia, the physician must apply his remedies to the head with his finger on the pulse, and his remedies to the system with the thermometer upon the forehead. For many years before 1862, and therefore before the use of the thermometer became general in medical practice, we were in the habit of testing the temperature of the forehead by means of a delicate instrument in which the mercury was contained in a flat helix of thin glass, which could be immediately

applied to the skin of that or of any other part. In fever there is usually more danger from the failure of the general powers than from states of local hyperæmia; and the predominance of caution must therefore be given to the means needful to support those powers. But, in cerebro-mental diseases, the danger of local mischief is often more urgent; and cerebral hyperæmia must be combated, however weak the pulse. This rule, however, has not unfrequent exceptions; and in an asylum for the poorer classes at least, many cases are annually under treatment in which wine and beef tea require to be administered freely, notwithstanding that the brain may be in a state of decided hyperæmia.

An eminent authority on the treatment of Insanity has stated that typhus-like cases of mania usually die; our experience does not accord with this, and enables us to state that they frequently recover both in body and mind. The cases which we have lost have either been admitted into the asylum in a moribund condition, or (which has happened twice) have been sent thither by an error of judgment, having been actually cases of typhus fever, complicated with delirium,—a fact which was proved by the *post-mortem* examination showing extensive ulceration of Peyer's glands.

In many cases stimulants and nourishments act as hypnotics. If the patient swallows without opposition or difficulty, it is best not to concentrate them too much. Good old port wine made into negus, and freshly-made beef tea, should be administered alternately every hour, or even every half-hour. When food can only be administered with difficulty, it is best to mix the wine with the beef tea, and to let the latter be strong.

Sulphuric ether, and sometimes carbonate of ammonia, are frequently useful as medicinal stimulants; the former, however, is most useful in combination with opium; and the latter with tonics in more chronic cases.

Chloral or hydrate of chloral is a new narcotic to which certainly the objection cannot be made that it is inefficacious. We heard Dr. B. Richardson read his paper on this new discovery of Liebreich and Dumas to the 'British Association' at the meeting at Exeter, in 1869, and little thought at that time of the important part it was about to play in the theurapeutics of mental disease. Since brought prominently by that paper before the medical profession in this country, this powerful medicine has passed through what we may consider the introductory stages in the history of new remedies.

First it was given somewhat indiscriminately and vaunted to the skies; then its power of doing harm was ascertained and it became unduly depreciated. At the present time, perhaps, it will be more correct to say that it is passing through the second era than that it has escaped from it into the third period, when men, considering that they have a new drug of undoubted power in their hands, set steadfastly to work to determine its good and evil effects, and to discriminate the cases in which its use is indicated. Four years is not a long time for the therapeutic history of a new medicine, and we may safely assert that the real value of chloral has not yet been actually determined.

The first person who employed chloral in the treatment of the insane was Dr. Saunders, our successor at the Devon Asylum, who commenced its administration immediately after Dr. Richardson's paper was read, and in his Report for that year he gives the following account of the results obtained.

"As a hypnotic it deservedly ranks with opium, and often procures refreshing sleep when the latter remedy has failed. A passing notice can only here be made of the class of cases in which this remedy has been used. Its results have been most satisfactory in Mania, especially of the recurrent form, with absence of sleep, and restlessness. Patients who have passed sleepless nights, in spite of the ordinary treatment by morphia, henbane, &c., have, after a two-scruple or drachm dose of the chloral hydrate, passed a tranquil night, and had undisturbed rest, lasting from six to twelve hours. In recurrent suicidal Melancholia, with excitement, it has proved equally valuable, as was shown in the case of a man recently under treatment, who suddenly became noisy, and in an excited tone carried on an imaginary conversation with the devil, who was tempting him to dash his brains out, and upbraided him for his cowardice in not at once doing so. A drachm dose of chloral was prescribed, and in twenty minutes he fell into a sound sleep, from which he awoke much refreshed both in mind and body. On the second day after the attack he was pursuing his employment in his usual state of health. He had several previous attacks, which yielded to treatment by other remedies, but the prompt action of the drug in this instance was very marked. It has also been used successfully in puerperal Mania. In the maniacal excitement of epileptics it has been found to exert a calmative influence. The remedy is of great service in allaying the restless excitement, with destructiveness and dirty habits, so often associated with General Paralysis. In a case of neuralgia of the face, recently under treatment, the patient had tried various remedies without effect, but was at once relieved of intense pain by a dose of chloral. One great advantage that this remedy appears to possess is that its administration is not followed by headache, loss of appetite, or sickness, neither does it diminish the secretions. It may on this account be found a valuable soothing agent in the excitement so frequently associated with phthisis and bronchial affections, where the use of opium is objectionable."

In a letter which we have recently received from Dr. Saunders,

he informs us that these first impressions of the value of the drug have been fully confirmed by the further experience of four years' practice, in which he has employed chloral very largely; indeed, he writes that he has administered quite 2 cwt., or 224 lbs., to the patients in the Devon Asylum, and as he considers, with almost unvarying success. He has found it of great value in the ordinary forms of acute and recurrent Mania, in Mania à potu, and in Delirium tremens. He seldom, however, prescribes a larger dose than half a drachm, to be repeated, if necessary, to produce sleep. In smaller and more frequently repeated doses it produces calmative effects, and Dr. Saunders writes that he has patients now under treatment who have taken fifteen grains three times a day for many months, and who become very dejected, haggard, and wretched if the medicine be stopped for a single day, and in these smaller doses it does not produce heaviness or stupidity, and the patients thus tranquillised are often capable of being employed. This latter point is of great importance, for if the chloral hydrate does not cure it may obviously become a means whereby influences more directly remedial may be applied whether moral or medicinal, and this is the view which Dr. Sherlock takes of its value. He says, "It is not considered to be a remedy having much curative power over the progress and course of mental disease, but it is of undoubtedly high value in procuring rest and sleep without much if any constitutional disturbance; so that time is afforded for the due exercise of other moral and medical treatment." ('Worcester Report,' for 1872.)

An important and valuable paper on the use of chloral hydrate, by Dr. J. B. Andrews, of the New York Asylum, was published in the 'American Journal of Insanity,' for July, 1871. Dr. Andrews' observations, which are accompanied by sphygmographic tracings, show that the physiological effect of the drug is, first, to reduce the heart's pulsations from eighty-four beats to fifty-four, and to increase the force of the heart's action and the arterial tension; large doses do not proportionately diminish the number of the heart's pulsations, although this effect is more prolonged; the secondary effect is to diminish the heart's action and the arterial tension.

It is used in the Asylum at Utica very largely, as much as ninety pounds having been given in about eighteen months to 370 cases. Use does not diminish nor custom stale its effects.

A dose of three drachms has been given for 195 nights in succession without apparent diminution of its hypnotic influence. Given with this intention it rarely causes disappointment, and many patients who would otherwise be out of bed and noisy all night to their own injury and the disturbance of the ward, are quieted, kept in bed, and and at last put to sleep by a timely dose of chloral.

Dr. Andrews considers that its advantages over other narcotics are, that it almost always causes sleep of from four to eight hours' duration; that the sleep resembles natural sleep so far that the patient is easily awakened from it; that it is better tolerated by the stomach than other sedatives; that it does not constipate the bowels nor disturb the secretions; that it does not diminish the appetite; that it does not lose its effect by repetition, and indeed, that the dose may often be diminished when the patient has become accustomed to its use, and seldom needs to be increased.

When the need for its use has ceased it often for the first time becomes disagreeable to the patient.

Dr. Adams quotes several superintendents of American asylums of high repute in support of his high estimate of the drug. It would be easy, did our limits permit, to supplement from various sources this testimony of the value of chloral as an hypnotic and tranquillising agent. The unfavorable testimony on the other hand is almost equally strong, and unfortunately for the reputation of the drug it is mainly directed against a fatal defect to its character as a remedy which has not yet been met by any positive evidence, namely, that, granting its efficacy in producing sleep, it does not tend to cure or even to shorten any form of mental disease. The sleep of a maniacal patient or of a melancholiac produced by opium has a restorative and remedial effect which no one denies or doubts, but the sleep produced by chloral, it is averred with a concurrence of testimony which can scarcely be doubted, leaves the patient very much where he was before and no nearer to the goal of recovery. On this point Dr. Blandford well observes:

"Chloral will produce sleep with certainty if the dose be large enough. Some have said that this sleep is useless; that procured by this means it does not shorten the attack. Experience of the drug is as yet limited, but I cannot but think that six or seven hours' sleep, even of this kind, repeated night after night, must be in the end beneficial, and must tend to shorten, not to prolong the disorder." (Op. cit., p. 241.

In this opinion we entirely concur. It is, and must be, a great point gained that a patient suffering from acute Mania should have a good night's sleep secured for him, and should awaken in the morning with strength in some degree reinvigorated to withstand even the renewed access of excitement, with a clean tongue moreover and an appetite for food, which will replenish the strength, and support him onward through the battle with disease. From our own observation we do believe chloral to be a far more temporising remedy than opium. As a curative agent, indeed, we think it is not to be compared with the vegetable narcotic. Yet, as there are many cases in which opium is contraindicated, and in which chloral is safe and efficacious as an hypnotic, its value as a temporising remedy must be admitted to be very considerable. Supposing even that two cases of acute Mania have run pretty much the same course in duration and termination, yet in one the nights have been spent in quiet sleep induced by chloral, and the other has presented one continuity of restless and noisy insomnolence, it can scarcely be doubted that the drug has had a practically good effect. In suicidal cases the security gained by the prolonged nightly sleep of chloral is a temporising advantage of great value. Moreover, the cases of restless sleepless Mania and melancholia, in which opium and all its preparations absolutely fail to procure sleep, are often found to be amenable to chloral. We remember watching such a case with great anxiety just after chloral first came into use. All the preparations of opium were tried in vain, but chloral acted like a charm; the dose, however, was steadily diminished, and in ten days natural and restorative sleep was gained.

Little as yet has been ascertained as to the therapeutic combinations of chloral, the most important of which, as far as we have yet seen, is that of its use with morphia. From this most important combination we have known the best effects. Fifteen grains of chloral, with a quarter of a grain of muriate of morphia, will often produce sleep which morphia alone would not effect, and after sleep leave a far greater amount of nervous tranquillity, and a tendency towards recovery which chloral alone would not induce.

The combination of chloral with stimulants is only less imimportant than that with morphia. Chloral alone frequently, if not always, has a depressing effect in hypnotic doses. We have

seen the awakening from its sleep attended with great wretchedness on this account, but this effect can be counteracted by administering it in combination with spirits, whisky, wine, or porter; and Dr. Clouston, whose authority on therapeutic agents is very high, recommends that it should always be so administered, not in small and repeated doses, but in one hypnotic dose, and mixed with a stimulant.

The class of cases to which chloral seems to be most suited are those in which sleeplessness appears to arise from exhaustion of the brain, cases of Dementia with intercurrent maniacal excitement, cases of Mania in old age, of insanity following prolonged lactation, and many others in which a similar pathological condition may be diagnosed, and it is exactly in these cases that its combination with a stimulant is indicated—old Scotch whisky is as good as any. Dr. Clouston has informed us that in his hands it has been efficacious in averting the maniacal excitement which so frequently follows an epileptic attack. "The sleep that so commonly follows the fits seems to be nature's mode of allowing the disturbed brain to rest and right itself. Now, we can imitate nature in this particular, and produce in an epileptic who is beginning to show signs of excitement a long and deep sleep by means of a dose of twenty-five grains of chloral with the best effects." In the sleepless excitement which occurs in General Paralysis it is also beneficial. Some physicians maintain that its use in this disease hastens the downward progress of the case, but this opinion certainly does not conform with our own observations. In these and in epileptic cases its use should of course be interrupted when the immediate purpose has been served.

Certain inconveniences and dangers which attend the frequent use of chloral are under discussion by psychiatric physicians, but as yet there is little concurrence of opinion respecting them. Thus, Schüle, of Illenau, in the 'Zeitschrift für Psychiatrie,' Band xxviii, Heft 1, challenges Fleming's assertion that on account of chloral, "Liebreich's name ought to be honoured by votive tablets in the portico of our temple," and he accuses the drug of tendency to produce, "with remarkable regularity, a high degree of congestion of the head towards evening, and always occurring after drinking a glass of beer, with strong injection of the connective tissue and rapidly beating carotids, without increase of temperature." He also considers that by means of

the ophthalmoscope he had demonstrated a highly congestive condition of the vessels of the retina. In intimate connection with these symptoms was an erythematous rash beginning on the forehead. Dr. Saunders, however, informs us that after having given to his numerous patients more than two hundred weight of chloral, he has never observed this rash, and therefore it seems probable that Schüle has merely met with an idiosyncrasy. We have, in several instances, observed morphia produce a rash. Dr. Hammond, of New York, however, has observed congestion of the retina, and Mr. Wickham, of Newcastle, has reported a case of sudden blindness, which passed off when the chloral was stopped. ('Jr. Mental Science,' No. 82, p. 268). In a certain number of cases the drug does undoubtedly produce nausea and vomiting, and in these cases its use must be interrupted. Dr. Richardson has pointed out its toxicological effects ('Jr. Mental S.,' No. 81, p. 118), but these are scarcely important from our point of view, with the exception of the fall in the bodily temperature, which also accompanies its therapeutic action, and indicates the prudence of sustaining the external temperature during its administration. When large doses fail to produce an adequate effect, the drug will probably be found to be passing off rapidly by the kidneys. Liebreich thought its action due to the evolution of chloroform from the alkalinity of the blood, and if so a defect of alkalinity may tend to interrupt its action, and to send it off in the urine unchanged.

Bromide of Potassium is not a new remedy, but an old one applied to new uses; it certainly stands next to chloral in its importance as a therapeutic agent in the treatment of Insanity and its complications, even if it ought not to be ranked before it, which position might well be maintained for it on the ground that it is very often and undoubtedly remedial and curative, a quality which is denied to the other drug. It was prescribed with success by Thielmann and also by Binet in 1858 in doses of from one to two grammes every two hours against satyriasis and priapism with nocturnal pollutions (Morel, 'Traite des Mal. Mentales,' p. 783), and its efficacy in repressing undue sexual excitement is still recognised as one of its undoubted and important uses. Our own experience of its use has been to a great extent restricted to its undoubted efficacy in the cure or the amelioration of epilepsy, but its value as a narcotic and a calmative has also been established

by a series of experiments and observations conducted with such admirable scientific method by Dr. Clouston, now of Morningside, that we may safely trust his conclusions without too much fear of the opinions which were announced at the 'Société Médico-Psychologique,' or in elaborate papers which have appeared in the German journals which seem simply to prove that in the absence of systematic observation there may be even among learned and scientific men *quot homines tot sententiæ*. For a good history of this diversity of opinion our readers may refer to the 'Correspondenz Blatt für Psychiatrie' for June, 1872, by Dr. Katz, but a perusal of Dr. Clouston's and Dr. Campbell's paper in the 'Journal of Mental Science,' Nos. 67 and 80, and of Dr. Clouston's Fothergillian Prize Essay, published in the 'British and Foreign Medico-Chirurgical Review,' Oct., 1870, and Jan., 1871, will repay them better. By Dr. Clouston's kindness we are able to place before our readers his latest conclusions, which he has communicated to us in the following terms.

"*The bromides of potassium, sodium, ammonium, and iron.*—I should place these at the very head of the list of neurotic drugs, whose use is indicated, and whose beneficial results are proved in a large number of cases of Insanity. Some of the best men in the medical profession in Great Britain, the Continent, and America, concur in this opinion. The bromide of potassium is on the whole by far the most efficacious and the least hurtful of all the bromides. An Italian physician, however, claims for the bromide of iron all its virtues, with many important ones of its own besides.

"*Class of cases in which bromide of potassium is most indicated.*—1. Epileptic Insanity, beginning with gr. xv, three times a day, increasing up to gr. xxx or xxxv. The best dose for the greatest number of cases is gr. xxv, three times a day (after meals). In a large number of cases it diminishes the number of fits, lessens the irritability, mental and motor, the body-weight increases, and the temperature gets lowered. Remarkable improvement may be expected in about one fourth of the cases, perceptible and real improvement in another fourth, improvement in some respects with compensating disadvantages in another fourth, and no effect or ill effects in the last fourth of all the cases to whom it is given, speaking roughly. As yet no general rules that are quite reliable have been laid down as to the kind of cases in which it is

likely to be beneficial, but often the more frequently the fits occur the more good it does.

"It is much less beneficial in Epileptic Insanity in women than in men. Its use may be continued for years with the original benefit *when the proper dose for the individual has been discovered.* This point is of the greatest importance, for it has been pretty well proved that its good effects result from a partial saturation of the system with the salt. It passes off by the kidneys, and its elimination proceeds at most different rates in different people. If this power is very great in any individual and a quantity of the given salt is at once thrown out, it does little good. If on the contrary it accumulates too much, its poisonous effects show themselves. I have cases under my care who have been taking it regularly for the last six years, with the original benefit to them, and no harm whatever." (My experiments and observations with the drug in epilepsy are contained in the 'Journal of Mental Science,' Oct., 1868.)

"*Effect of the bromide of potassium in Epileptic Insanity.*"

"*Summary.*—1. Twenty-nine cases of epilepsy of old standing, all having the same diet, and subject to the same conditions, were subjected to systematic treatment by bromide of potassium after their normal condition as to fits, weight, temperature, general health, and mental state, had been ascertained and noted. I gave them gradually increasing doses of the medicine up to fifty grains, three times a day, and the treatment was continued for thirty-eight weeks, every particular in regard to the disease and in regard to their bodily and mental condition being noted every week during that time.

"2. The total number of fits taken by the patients fell gradually under the use of the medicine to one sixth of their average number without medicine.

"3. The fits taken during the day were lessened to about one twelfth, and those taken during the night to about one third of the normal number.

"4. The reduction in the fits was not uniform in all the cases. In one case it amounted to 24,000 per cent., in one half of them to more than 100 per cent., and in five cases there was no reduction at all.

"5. In one fourth of the cases the fits were much less severe, in some being less severe, while as frequent as before.

"6. In one fourth of the cases the patient's mental state was very greatly improved. Nervous and mental irritability and tendency to sudden violence were wonderfully diminished in those cases, and they were the worst of the patients in that respect. Attacks of epileptic mania were diminished. In some cases the mental state was improved, while the fits remained as frequent as ever.

"7. The majority of the patients gained considerably in weight, while the doses were under thirty-five grains three times a day. Their aggregate weight was greater at the end of the thirty-eight weeks than it had been to begin with, though it began to fall after thirty-five grain doses had been reached.

"8. The patients' temperature fell somewhat until they got up to fifty grain doses thrice a day.

"9. The pulse gradually fell about seven beats up to forty-grain doses. After that it arose, but not up to its usual standard without medicine.

"10. None of the patients suffered in their general health except five. All the others were benefited in some way, except one.

"11. The ill effects produced by the medicine in those five cases were torpor of mind and body, drowsiness, increase of temperature, loss of weight, loss of appetite, and in three of them slight double pneumonia.

"12. The cases most benefited by the drug were very various as to the causes, number, and character of the fits, age, and in every other respect. On the whole the cases who took most fits benefited most.

"13. The cases in whom the medicine had ill effects had all taken fits from childhood, were all very demented in mind, and took more than one fit per week, but seemed to have nothing else in common.

"14. The diminution of the fits and all the other good effects of the medicine reached their maximum in adults at thirty-grain doses three times a day, while ill effects were manifested when thirty-five grain doses three times a day were reached.

"15. There seemed to be no seriously ill effects produced in twenty of the cases by fifty-grain doses of the medicine thrice a day, continued for ten weeks.

"16. When the medicine was entirely discontinued in all the cases the average number of fits increased in five of the cases benefited, to or beyond their original number in four weeks; in thirteen cases they remained considerably less. The total average during that time was a little more than one half the number of fits taken before the medicine was given, and the greatest number of fits occurred in the second week after the medicine was discontinued."

"*Climacteric Insanity in Women.*—This variety of Insanity in my experience benefits most by the bromide next to Epileptic Insanity. In its early stages I am sure I have seen attacks cut short by it, given in ʒj doses. It calms the irritability, soothes the fearfulness, and overcomes the sleeplessness of this variety of Insanity in a larger number of cases than any other drug in my experience. If judiciously given, cases may very often be kept at home instead of being sent to asylums.

"*Senile Insanity* is often much benefited by it; but its *continuous use* must, if possible, be avoided in these cases, on account of its ill effects showing themselves.

"*Hysterical Insanity* is often cured by it in combination with valerian.

"The *Insanity of Puberty* may in some cases be most successfully treated with the bromide in large and continuous doses (from 45 grains up to 90 three times a day), until the patient gets under its influence. Attacks of this disease can certainly in some cases be cut short by it. The acutely maniacal form of this disease is most benefited.

"The *Insanity of Alcoholism* is most markedly benefited by it, given through the day, with a dose of chloral at night to cause sleep.

"In *Uterine Insanity* and *Ovarian Insanity* it is often most useful.

"In the preliminary stages of Insanity before the symptoms have actually developed into decided psychical aberrations, when the symptoms are chiefly sleeplessness, irritability, restlessness, commencing want of self-control, I know of no drug equal to the bromide of potassium for calming the irritability present. It does not interfere with the appetite (sometimes it increases it), and seldom produces any bad symptoms.

"In all cases where continuous and large doses of the bromide are given the tongue must be watched. It always shows an ill effect, first by producing whiteness of the tongue, and it must be at once stopped when this is seen. Even after it is so stopped its effects will continue for days, showing its cumulative action. It sometimes causes slight paralysis of the muscles of the fauces as well as partial reflex insensibility there. A troublesome variety of acne is another unpleasant effect of this drug, the only effectual treatment of which is to stop the medicine.

"*Combination of the bromide of potassium with other neurotics.*—The action of the bromide on the nervous system being in many respects quite peculiar—tending to calm irritability, motor and sensory, and to produce motor paralysis if pushed far—it has been combined with the vegetable narcotics such as Indian hemp, hyoscyamus, and opium with remarkably good effects. I made a series of careful experiments in regard to the effects of its combination with Indian hemp (Fothergillian Prize Essay, 1870. 'Brit. and For. Med.-Chirurg. Rev.,' Oct., 1870, and Jan., 1871) and the following were some of my conclusions.

"3. A mixture of one drachm of bromide of potassium with one drachm of the tincture of cannabis Indica is more powerful to allay such excitement than any of the other drugs or stimulants tried. It is more uniform and certain in its effects, more lasting, interferes less with the appetite; and to produce the same effect the dose does not require to be increased after long-continued use.

"5. By giving bromide of potassium and cannabis Indica together, not only is the effect of either given separately immensely increased, but the combination has an essentially different action from either of them given alone.

"6. Bromide of potassium alone can subdue the most violent maniacal excitement, but only when given in immense and dangerous quantities, and its effects are so cumulative while so given, that after they have once begun to appear they increase

for days after the medicine has been stopped, almost paralysing the cerebrum and sympathetic.

"7. To produce sleep in mild excitement, one drachm of the bromide of potassium is about equal to half a drachm of laudanum. To allay maniacal excitement forty-five grains of the bromide and forty-five minims of the tincture of cannabis are rather more than equivalent to a drachm of laudanum.

"8. Seven cases of chronic Mania were treated for twelve weeks with opium, in doses rising gradually from twenty-five minims of the tincture up to ninety minims three times a day, and the results noted. After getting no medicine for several months the same cases were treated with a mixture of bromide of potassium and cannabis Indica in gradually increasing doses, and the results noted and compared with those of the opium treatment.

"9. Under the opium treatment the patients all lost in weight continuously; their morning temperature was lowered and also their evening temperature, but the latter (which was too high, and its being high was a bad sign) very slightly, and their pulse was decreased in frequency. The opium allayed the excitement in the larger doses, but it soon lost its effect.

"10. Under the bromide of potassium and cannabis Indica treatment the patients only lost in weight very slightly for the first six weeks, and after that they gained, their weight being more at the end of eight months' treatment than it was to begin with. Their appetites were not interfered with. Their temperature fell, especially their evening temperature, and the pulse was slightly increased in frequency and weakened in force, while the excitement was subdued, and the medicine showed no signs of losing its effect, even after being thus used for eight months. The maximum of good effects and the minimum of the ill effects of a sedative drug were thus obtained by using the bromide of potassium and the cannabis Indica in combination.

"11. The bromide of potassium alone may be continued for months in doses of half a drachm three times a day, and the patients gain in weight and remain healthy in body, but the proper dose, whether given alone or along with cannabis Indica, varies greatly in different cases.

"12. Cannabis Indica being a diuretic, and the bromide of potassium being carried off by the kidneys, it is probable that the former in that way helps to prevent the cumulative action of the latter when given alone.

"13. When the two are given together, the first symptoms developed are those of the cannabis Indica, but these soon merge into a state of drowsy calmness of the nervous system which is in all respects the opposite of nervous irritability.

"14. Fifty-one cases of various forms of Insanity were treated by bromide of potassium alone or along with Indian hemp, and the results were that eighty per cent. of these were benefited more or less in some way, and twenty-five per cent. were most decidedly benefited.

"15. The milder cases of Puerperal and Climacteric Insanity were sometimes remarkably benefited by drachm doses of the bromide of potassium given at night.

"16. In some of the cases of acute Mania the excitement was subdued in a few days by the bromide combined with Indian hemp in doses of from half a drachm to a drachm of each given three times a day.

"18. In three cases of periodic Mania, attacks were cut short by a mixture of the two medicines, or by the bromide alone. In one of these complete recovery followed.

"19. Fewer cases of simple Melancholia were benefited by the bromide alone or along with Indian hemp than any other form of insanity. Some were made worse

by them, but in one case of this disease where there was great excitement and hallucination of hearing and suspected organic disease of the brain, the combination gave immediate and complete relief of all the symptoms for four months.

"20. One case of senile Mania was successfully treated at home by a mixture of the bromide of potassium and tincture of cannabis Indica, when she was to have been sent to an asylum. It seems probable that some such cases, and also patients with short attacks of mania, might be treated by the same medicines at home, when at present they have to be sent to lunatic asylums, on account of the want of such a safe and powerful sedative.

"The combination of the bromide with hyoscyamus has much the same effect as its combination with Indian hemp, in certain cases acting better and in certain others not so well. It does not make the pulse so weak as the Indian hemp combination does in some cases. When combined with opium its effects are so completely lost in those of the latter that they are scarcely seen.

"In regard to the relative efficacy or strength of certain neurotics, my friend and late assistant, Dr. John A. Campbell, prepared certain experiments which may be relied on, and his conclusions are as follows:—

"1st.—That both chloral and tincture of hyosycamus are sure sedatives to maniacal excitement.

"2nd.—That of these two medicines chloral is the most certain sleep-producer.

"3rd.—That chloral acts more quickly than tincture of hyoscyamus.

"4th.—That though bromide of potassium in such doses is a sedative to maniacal excitement and to a certain extent an hypnotic, yet it is not a sufficiently powerful sedative to allay intense excitement, or an hypnotic to compel sleep where great insomnia exists.

"5th.—That a two-drachm dose of tincture of hyoscyamus is not quite equivalent to thirty grains of chloral. Two and a half drachms would probably be as nearly an equivalent as could be given. From the different sedative and soporific power of bromide of potassium, I think one can hardly form an idea of an equivalent dose. It appears to me to be useful only where the excitement or insomnia is of a slight character."

The paper by Dr. Jules Falret, in the 'Annales Médico-psychologiques,' 5th vol., 5 série, p. 161, on the action of bromide of potassium on the epileptics of the Bicêtre, is very valuable.

Dr. Falret observed that from its use irritation of the throat was frequent, though transitory, and more unpleasant than painful.

Some patients had pain in the stomach, with sensation of heat, difficulty of digestion, sometimes mucous vomiting, sometimes not; *un malaise stomachal nerveux*, usually not intense nor durable, and many patients did not experience this inconvenience.

Almost all the patients presented in various degrees the cutaneous eruption. So long

as the dose is under three or four grammes a day, this acnè does not manifest itself; but generally after the dose has passed four grammes one sees pointed and acuminated "boutons," like those of acnè, on the face, the shoulders, and the back. Sometimes after two or three years this eruption becomes so painful and rebellious to external remedies that one is obliged to diminish the dose of the bromide, or even to suspend it completely, to make the general eruption cease, which has become an evil more grievous and painful than the epilepsy itself.

The drug being stopped, the eruption decreases rapidly and soon disappears, but then also the epileptic attacks, which have been greatly diminished, reappear with new force and greater frequency, and we have to renew the use of the bromide.

The great proportion of the patients who take bromide for any length of time emaciate and become pale and yellow (*jaunissent*), although continuing to seem well and to eat with good appetite, and the bromide almost always produces one effect, namely, to diminish or even completely to destroy the energy of the genital functions.

After prolonged use of the bromide in considerable doses, sometimes the intelligence degrades in a remarkable manner. The memory is lost, and the patient arrives *jusqu'à l'hébétude*. In others somnolence or a comatose state indicates a kind of saturation from the accumulation of the drug in the system.

Falret has given the bromide to fifty epileptics, and to half of them for three years continuously. In half of the whole number there was no appreciable result; they remained exactly as they were before with regard to the epilepsy—with the same number of fits of the same intensity as before. In the other half an amelioration either in the malady or in some of its symptoms took place. In the greatest number of these a simple diminution in the intensity or in the number of the fits took place, and in the remainder the malady was so far ameliorated, or even for a time suspended, as to make one ask whether it was not really cured.

The most favorable cases for the bromide are those in which there is no pronounced mental trouble, nor vertigos, nor absences, and in which the epileptic attacks, although intense and well characterised, are separated by sufficiently long intervals—*les epilepties simples, avec grand attaques elonguées, sans vertiges ne absences.*

The night attacks disappear sooner than those of the day.

The patients who suffer from maniacal excitement before the attack see this disappear before the attack does so. The grand attacks diminish in frequency and intensity before they disappear.

The patients most improved retain three or four attacks in the year.

The grand attacks disappear before the absences and the vertigos, these often continuing after the fits cease.

These symptoms (absences and vertigos), seeming to be an incomplete or abortive epilepsy, resist the action of the bromide most.

Digitalis.—This remedy has been strongly advocated by Dr. Lockhart Robertson and by Dr. Duckworth Williams, his successor at Haywards Heath. Our own experience of its value has been restricted to cases of insanity complicated with heart disease, in which it undoubtedly diminishes the irritability and equalises the action of that organ. We have never given it with the intention of reducing cerebral excitement, but we think, from the recorded experience of the physicians above named, that it is an

important medicine for the latter purpose. Dr. Robertson's first paper will be found in the 'British Medical Journal,' October 3rd, 1863, and a subsequent one in the 'Journal of Mental Science,' No. 48, p. 547, and that of Dr. Williams in No. 56 of the same journal. The conclusions arrived at are—

"1. That digitalis is a valuable sedative in the treatment alike of recent and chronic mania, and when those forms of disease are complicated with general paresis and with epilepsy.

"2. That the average dose of the tincture is from ʒss to ʒj, and that this quantity may be certainly given for several days with impunity, and subsequently—adjusted to the state of the pulse—may be advantageously used for many months.

"3. That the indication by which the use of this drug is regulated is the state of the pulse, any marked intermittence requiring its immediate discontinuance.

"4. That the weakness of the circulation is no indication against its employment; on the contrary, experience shows that the most enfeebled subjects bear its administration as well as the most robust.

"5. That when sickness and a tendency to syncope follow the use of digitalis, without at the same time a corresponding abatement of the excitement, a combination of the drug with chloric æther, morphia, and hydrocyanic acid, in some such proportions as those above given, often produce the desired results, which the digitalis alone has failed to obtain."

Ergot of rye.—Dr. Crichton Browne has made a number of experiments with this drug, and arrives at the conclusion that it is of decided use in (1st) recurrent Mania, (2nd) chronic Mania with lucid intervals, and especially (3rd) epileptic Mania. "In these forms of cerebral derangement," he observes, "I have found it almost uniformly efficacious in reducing excitement, in shortening attacks, in widening the intervals between them, occasionally in altogether preventing their recurrence, and in averting that perilous exhaustion by which excitement is so often succeeded." Dr. Browne explains its beneficial action by its influence in contracting the vessels of the brain, and administers the liquid extract of ergot in doses of from ʒss to ʒj three times a day, or ʒj to ʒij of the pharmacopœial tincture. (See the 'Practitioner,' June 1871, and the 'West Riding Medical Reports,' vol. ii, p. 230.)

Calabar Bean (*Physostigma venenosum*).—Dr. Crichton Browne

extols the virtues of this remedy, especially in the excitement arising in the course of General Paralysis. The dose of the extract is from a quarter of a grain to a grain. (On the action of Calabar bean see Dr. T. R. Fraser's article, 'Trans. Roy. Soc. Edin.,' vol. xxiv.) The influence exerted on the pulse by this drug has been referred to in the section on the Sphygmograph in this volume. Several cases of General Paralysis which derived benefit from its use are given in the above Reports, vol. i, p. 67.

Stimulants.—Of dietetic stimulants, genuine old port wine is far superior to all others; well-made egg-flip is, however, sometimes useful, the *spiritus vini gallici* of Pall Mall, or the more homely recipe of egg and sugar beaten up with old ale, a nutritious and comforting beverage, upon the daily use of which we have seen great progress made towards health and strength. The ordinary diet of insane patients when, in chronic stages, it becomes part of regimen, instead of part of direct treatment, should be ample and nutritious. Patients from the higher classes of society will often improve by living somewhat below their average custom, and those from the lower classes far more frequently by living above it; but for one patient who is likely to be injured by a too full diet, causing plethora, twenty are likely to derive the utmost benefit from an abundant supply of stimulating nutrition.

In acute maniacal delirium the life of the patient, and with life his probable recovery, will depend upon the frequent administration of dietetic stimulants and food. The proper treatment very much resembles that of a delirious typhoid or typhus patient. The muscular prostration of the latter, however, is absent, and the patient, instead of lying in his bed, and even sinking towards the foot of it, will wander about in ceaseless activity almost up to the time when fatal sinking comes on. In such cases place the patient in a small room, the floor of which is covered with mattresses and bedding, and have one or more nurses with him constantly to keep him in a recumbent position, that the heart may have less work to do in supplying the brain with blood, and then feed and stimulate as you would in idiopathic fever to keep him alive. We have most faith in port and strong beef tea given every two hours; but brandy and eggs, rum and milk, and other strong soluble diet combined with stimulants are useful variations. If you can get him to swallow solid or half solid food, by all means do so, for there is no fear of solid food irritating ulcerated intestines as in fever. In these

cases endeavour to procure sleep by warm baths with cold lotions to the scalp or the ice cap; but beware of hypnotics, or if any of them be used let it be chloral.

On the Use of Purgatives and Aperients.—The purgative treatment of insanity by hellebore is the oldest on record, and it still enjoys some traditional favour. In the treatment of many troublesome symptoms which arise in the course of chronic and incurable insanity, a brisk purge is often more useful than any other remedy; but, as a means of curative treatment, active purgation is, according to our experience, of little value. Theoretically, a purge is supposed to be a powerful derivative from the brain, not only by actually diminishing the bulk of the circulating fluid, but by causing a state of congestion of the intestinal mucous membrane, which derives from other parts. A headache, or sense of headfulness from plethora, is easily and speedily removed by a purge; and, in chronic Insanity, the transitory excitements which are so common from this cause, often yield to a full dose of neutral salts, or to one of compound jalap powder, or to one of compound gamboge pill. But in treating acute Insanity with a curative intention, active purgation does not appear to exercise that influence upon the state of the cerebral circulation which might have been expected from its undoubted service in the conditions we have mentioned. Constipation, indeed, frequently exists, and needs to be obviated; otherwise it becomes a source of disturbance, by perpetuating nervous irritation, and preventing the needful depuration of the blood. The most certain and useful medicine for removing constipation is a full dose of castor oil, to be repeated from time to time as occasion may demand; a daily dose of aloetic aperient, in quantity sufficient to ensure one or two evacuations, is also of the utmost service. For this purpose, five or six grains of compound rhubarb pill, or four grains of extract of aloes with two of extract of hyoscyamus, will be found useful forms. When the state of the secretions and the colour of the skin indicate a deficient flow of bile into the intestines, the liver may be stimulated by a few moderate doses of hydrarg. c. cretâ, or blue pill. As a rule, however, mercurials do harm in a state of acute insanity; and no doctrine was more false, or likely to be more mischievous, than that which attributed any of its varieties to black bile.

Counter-irritation and Derivation.—The use of external deri-

vatives, with a curative intention, if employed in the right cases, and at the right time, affords important and satisfactory results. The use of tartrate of antimony to the shaven scalp, in Insanity, was strongly recommended by Dr. Jenner, who brought himself to believe that almost all cases were curable by its means, a persuasion in which he was of course very much mistaken, but which was, doubtless, grounded upon a limited but successful experience. The same remedy has been more recently advocated by a German alienist of high reputation, Dr. Jacobi, of Siegburg. Before we were acquainted with the views of the above physicians, we had adopted the use of a counter-irritant, producing a purulent discharge upon the scalp, resembling that of the antimonial ointment. This remedy is the oleum tiglii, rubbed into the shaven scalp. We had seen the practice adopted by Dr. William Stokes, of Dublin, in some cases where, during convalescence from typhus fever, the patients had passed into a state somewhat resembling Dementia, and in other instances, into a state of semi-coma. The benefit derived in these instances from this powerful counter-irritant induced us to try it in cases where, upon the subsidence of the symptoms of acute Insanity, the patients were gradually passing into a state of chronic Insanity, or Dementia. The result was most satisfactory, and after the experience of many years, we strongly recommend in such cases the counter-irritation of the scalp thus produced, after the subsidence of acute symptoms, and when the head is cool and there are no signs of plethora. We have also found it exceedingly useful in many cases of chronic Melancholia with delusion. The proper application of the oil requires some little attention and skill. Upon a scalp of average texture, half a drachm of the oil, rubbed in with the palm of the hand for twenty minutes, will produce the desired effect: upon the scalps of coarse or fine-skinned persons an increase or diminution of oil and rubbing is needful. It is also needful to watch restless patients for a few hours subsequently, to prevent them from rubbing their hands over the scalp and face, and producing pustules upon the latter.

It will be found that this mode of counter-irritation is far more manageable than the antimonial ointment so much employed by French alienists, and which Morel says sometimes causes necrosis of the cranium, and it is more efficient and less likely to be rubbed into an irritable sore than the common cantharides blister. Setons

in the nape we have tried in many cases, and they sometimes appear to aid the operation of medicines.

Tonics.—The use of tonic medicines in Insanity is extensive and frequent. Sulphate of quinine, dissolved in port wine, is the most useful form, and often does good in the later stages of mania, when the system is broken down, either by the exhausting processes of the disease, or by the want of food, and the other sources of exhaustion to which neglected cases are often exposed. Bitter infusions, with carbonate of ammonia, or with the mineral acids, are sometimes useful, when wine and quinine would prove too stimulating. The various preparations of iron are indispensable in anæmic amenorrhagia and other conditions where the blood is poor and the heart is weak. The preparations we prefer are the old tincture of the sesquichloride, and the ferrum reductum, and as a milder preparation the citrate. The former of these preparations has been found useful in checking the tendency to wet habits.

Electricity.—Dr. Allbutt, of Leeds, brought the electric treatment of Insanity prominently under the notice of alienist physicians in the second volume of the West Riding Lunatic Asylum Reports, 1872, his experiments having been performed at that institution. Two years previously a paper appeared in 'Griesinger's Archiv' on this subject, by Arndt. Dr. Allbutt concluded that cases of acute primary Dementia were most benefited by the electric treatment; that distinct improvement, but to a less degree, was observed in Mania, atonic Melancholia, and perhaps recent secondary Dementia; that no change was noticeable in chronic Dementia and in some cases of Melancholia; and, lastly, that the result was unfavourable in hypochondriacal Melancholia and perhaps brain-wasting. The most recent trials of the effect of the continuous electric current have been made at the Sussex Asylum, at the suggestion of Dr. Williams, by Dr. Newth. A Stöhrer's battery was employed, a low power being tried in the first instance, and indeed more good appears to have resulted from a moderate than a powerful application. "In some cases the hands or feet were placed in a basin of acidulated water with one of the electrodes dipping in it, the other being applied to the head or spine: this increased the receptivity, and by leaving both hands or feet in the water it was possible to send a current up or down both extremities at the same time" ('Journal of Mental Science,'

April, 1873). Fifteen cases are reported in the Journal, and in nine the beneficial action of the remedy appeared to be decided. The treatment was found to be most promising in those cases in which the pulse increased in force and slightly in frequency. In a very unpromising case of Melancholia originating in sunstroke, in whom the positive pole was applied to the side of the head over the temporal muscle, and the negative to the inner side of the foot first, and then to the hand, the result is stated to have been marvellous. "Each application was followed by decided improvement, so that in a few days he was conscious and able to feed himself; in less than a month the treatment was discontinued. The patient himself fully appreciated the benefit he had received, and warmly expressed his thanks."

Baths.—There are few secondary remedies more useful in the treatment of Insanity than bathing, and there are few that have been more abused, from the time when Van Helmont proposed to drive delirious ideas from the minds of the insane, by bringing them to the verge of dissolution from the body, by submersion, to the present time, when, according to the accounts given by Dr. Daniel H. Tuke and Dr. Moreau, some eminent German alienists treat their patients with the utmost severity of the douche, and we can testify that the same system was in operation even at Charenton in 1868. Even Esquirol, who so boldly denounced some of the worst abuses in the treatment of Insanity, made use of the affusion of cold water to an extent which we should at the present day think highly dangerous, but to which he attributed the cure of several of his patients. Thus, in the case of M. L., 'Malades Mentales,' p. 206, of his second volume, he speaks of the affusion of cold water having produced a shivering, which lasted the whole day, followed, however, by tranquillity, and on repetition, resulting in a cure. In the case of F. M., a young lady of delicate constitution, and nervous temperament, recorded at p. 209, he says that the affusion of cold water was continued fifteen minutes, "after which a shivering came on, her jaws chattered violently, her limbs were unable to support the weight of her body, and the pulse was small, slow, and contracted; she was put to bed, and slept almost immediately. The sleep lasted four hours, during which an abundant sweat came on; on awaking reason had returned, and there has not since been a moment of delirium." He concludes, "the douche on the head has a sedative physical

action on account of the cold, and a moral action as a means of repression. The generality of convalescents declare that they have experienced benefit from it, and some patients ask for it, but, *il ne faut pas en abuser.*"

There is no need to cite lower authorities than this great and humane physician to prove the extent to which douches were used, before their danger was recognised. Like all powerful remedies they are capable of abuse, and in the hands of either ignorant or unfeeling persons, there is no doubt that they have often been greatly abused.

To prevent such occurrences, the regulations which have been issued by the Commissioners in Lunacy are, on the whole, judiciously conceived. To be of practical use, some limit must of course be fixed, beyond which the duration of a bath must be considered exceptional, and a shower-bath of three minutes is doubtless quite long enough for all purposes of medical treatment; indeed, with delicate persons, and in cold weather, a bath of that duration would be dangerously long. As a means of repressing the state of febrile excitement, with heat of head, and emotional erethism, which is common among the chronic insane, a bath of three minutes' duration is more than sufficient. As a means of reducing cerebral hyperæmia, in acute cases of Insanity, it would probably be very inadequate; but in such cases the shower-bath appears to us an inconvenient and altogether objectionable method of applying cold to the head, since it drives the blood from the surface of the body at large, and thus tends to the congestion of the internal organs, and especially of the heart, a congestion unfavorable to the return of blood from the brain. In such cases far more benefit is to be derived by the application of cold to the head alone, and not to the general surface. Excepting the occasional use of the shower-bath in the intercurrent excitement of Mania and Monomania, its medical use is confined to its tonic action in irritably nervous and hysterical patients and in some Melancholic patients. The benefit to be derived from its habitual use in hysteria is well known. Among the insane of both sexes are a considerable number of persons whose nervous irritability and susceptibility are identical with that which prevails in the hysteric diathesis; in such persons the daily use of the shower-bath, living in the open air, a well-regulated diet, healthy mental occupation, and the authority of a strong will to check irregu-

larities of conduct, form a system which alike braces the physical and the moral nature, and often results in the happiest change of disposition.

In Melancholia, a daily shower-bath is often useful, even in cases where the strength of the system seems scarcely able to bear the shock. It should be of short duration—namely, from fifteen to thirty seconds; the patient should be dried while standing in a pan of hot water; but if the bath is followed by shivering, or even a feeling of chilliness, it should be discontinued.

The use of the warm bath, either alone or in combination with cold to the head, is a most important remedy in the therapeutics of mental disease. The simple warm bath allays irritation and promotes sleep. Judging from the small effects resulting from a warm bath in other diseases, its tranquillising effect in Insanity is often wonderful. It frequently produces sleep when all other means fail. We have at the present time a young man under treatment, with gay and mischievous Mania; he is habitually sleepless. Morphia and opiates are not well borne by him; they cause sickness and increase irritability. The tincture of hyoscyamus, in half-ounce doses at night, is borne well, and allays excitement; but if given without a warm bath, little or no sleep results; if given with a warm bath, eight or nine hours of sound sleep are obtained. In recent half-acute cases of Mania, with irritability and partial sleeplessness, a course of three or four warm baths at night, with some simple aperient in the morning, often changes the whole aspect of affairs, and leaves nothing to be done to complete a cure, but the employment of physical and mental regimen for a few weeks or months.

The same is true, though to a less extent, in some cases of Melancholia. In general, those cases of Melancholia are most benefited by warm bathing in which the various secretions seem out of order; in which the skin is harsh and dry, and often sallow, the tongue is loaded, the pulse soft and slow, and the disease has not been of long duration; while those are most benefited by cold bathing or cold sponging, in which there is most nervous irritability, a tendency to hysterical weeping, or to hypochondriacal notions, in which the skin is healthy, and the pulse more rapid than is usual, with a fair degree of force. The warm bath we usually prescribe is one of thirty minutes in duration, and ninety-five degrees of temperature.

The warm bath combined with cold affusion to the head is a remedy much used and highly commended by the eminent French alienist, M. Brierre de Boismont; he advises that it should be used for ten, twelve, or even fifteen hours—the patient being retained in the bath during the whole of the time, if possible by persuasion, but if not, by force. The temperature is kept between twenty-five and thirty degrees Centigrade; cold affusions to the scalp being applied at intervals, and continued for ten or fifteen minutes at a time. Cold affusions and irrigations are inseparable from the employment of these prolonged warm baths. M. Brierre de Boismont generally gives them in the form of an arrosoir falling from the height of a man; they maintain the coolness of the head, and diminish its congestion; they serve also to prevent that sanguineous afflux which the warmth of the bath might occasion; they are administered many times during the continuance of the bath. It is not uncommon to observe patients cease from crying and become calm as the shower of water falls upon their head. Some of them cry that that does them good. "Of all the remedies," he says, "most strongly recommended against the acute forms of Insanity, we know of none who are able to sustain a comparison with prolonged baths and continued irrigations."

M. Brierre employs this bath in a *baignoir de force*, with a covering of wood adapted to enclose the neck of the patient. We have tried the plan; but it appeared so far dangerous, from the efforts of the patient to release himself, that it was soon discontinued. We have found the most convenient plan is to place the patient in a reclining chair, which fits into a warm bath of large size, and affords a good support for the head, which can then be held in the proper place by the hands of an attendant.*

The effects produced by the combined bath are so great that

* The Combined Bath was originally a design of Pinel. After describing the general use of baths, which for eight years had been employed at the Salpêtrière as "the fundamental basis of treatment for maniacs and melancholiacs; in proportion as their importance became more and more manifest, their employment was varied and seconded by other means; twelve bath-rooms being in activity during a great part of the day," he proceeds: "A happy combination of the douche with the bath adds much to its efficacy, and obviates even the smallest inconvenience which might arise. At each bath, immediately above the head of the patient, is a tube, which, by means of a tap, lets fall from a height of three feet a thread of cold water, proportioned to the end in view, and graduated to the symptoms, but generally very small, and limited to a simple sprinkling [arrosement]."

the length of time it is prescribed by M. Brierre de Boismont is to us unaccountable. We have known patients faint after the use of the warm bath, with a cold shower on the scalp, of no great force, continued for less than an hour. Once only we have used it for two hours; and an experience of some years has convinced us that it is a most important and valuable remedy, but one by no means free from danger, and the use of which, for any period approaching ten, twelve, or fifteen hours, would be fraught with peril.

We have known a single application, for one hour, of the warm bath with cold to the head, effect the best part of a cure in a maniacal patient; and in many instances of recent mania, with hot head, full pulse, and violent delirium, we have known the symptoms take a favorable turn from the first application of this powerful remedy. But we have known one patient affected with syncope, and die on removal from the bath after being in it only twenty minutes; and in several cases we have observed so decided a tendency to syncope, that we have been convinced that it is not safe practice, in all cases, to repel the blood from an hyperæmic brain in the sudden and decided manner which the combined bath places at the disposal of the physician. Urgent cases, of course, need energetic measures; but, in the majority of cases of mania with cerebral hyperæmia, a warm bath at ninety-two or ninety-six degrees, with pledgets of wet linen constantly renewed to the shaven scalp, or kept cool by a small shower of cold water poured from time to time from the rose of a small common watering-pot, and used after leeches to the temples, is sufficiently energetic and successful, and far safer, we think, than the practice recommended by the eminent author above quoted. In the words of the great French authority, Pinel, "*il ne faut brusquer rien.*"

The Turkish or Hot-air Bath was first used and advocated by Dr. Lockhart Robertson and by Dr. Power, of Cork, in the treatment of Insanity. During the last year of our residence in the Devon Asylum we constructed a large and commodious Turkish bath for the use of the patients. Our experience of its value as a therapeutic agent was not very favorable. If used frequently it appeared to us to be depressing, and if used only occasionally the benefit derived appeared to be but transitory. It certainly was beneficial in its action upon several cases of Melancholia, with harsh dry skin, and of Dementia, in which the skin

and tissues were pale and flabby, the heart's action weak, and the functions of secondary nutrition inactive, and we observe from one of the Reports of Dr. Saunders, our successor at Exminster, that his experience has tallied with our own.

We are inclined to think that the Turkish bath is more calculated to improve the health of chronic and incurable patients than to act remedially on those whose malady is recent and curable, or at most that its rôle will be to supplement methods of treatment which are capable of being applied more constantly. There are few patients for whom we should like to prescribe this form of bath so frequently as twice a week, and if used once a week or less frequently it becomes a luxurious and wholesome habit rather than a remedy.

The Wet Sheet or Wet Pack was also first used by Dr. Lockhart Robertson with much benefit in cases of sthenic mania. It acts as an energetic sudorific, and may undoubtedly be of service, though it is open to the possibility of abuse as an indirect means of mechanical restraint. This caution, which was given in our last edition, appears to have been justified by the recent order of the Commissioners in Lunacy that the use of the *wet pack* should be recorded as an instance of the employment of mechanical restraint. We observe that this order has been protested against as an undue interference with medical treatment, but surely it is in every way justified, for the wet pack is mechanical restraint of the most stringent character, and the Commissioners must know that it has been used not merely with the intention of exciting the action of the glands of the skin, but also with the indirect purpose of restraining muscular activity. We have never used it upon a lunatic because, having tried it upon our own person, we found the sense of muscular restraint so painful that we thought this objection would counterbalance any advantages it might possess over the warm or the Turkish bath. Still, if its use tranquillises and benefits violent maniacs, the physician is clearly justified in prescribing it, and the Commissioners are equally justified in requiring that its use should be recorded as restraint in obedience to the statutory law on the subject. Restraint is avowedly admissible and necessary for medical as for surgical purposes. We tie a patient into a chair before we use the stomach-pump, and ought to record the fact or we break the law; and the Commissioners do not prejudge the inadmissibility of restraint

even for moral purposes in all cases. Dr. Blandford, writing of acute Melancholia, says, "Suicide is their one end and aim; and at the suggestion of the Commissioners of Lunacy themselves I have employed mechanical restraint at night for such reasons as I have stated" (op. cit., p. 211).

Forced Alimentation.—Much has been written and much diversity of practice has existed on this subject. Dr. Harrington Tuke read an important paper on it to the Medico-Psychological Association in 1857, and Dr. Duckworth Williams published another in the 51st number of the 'Journal of Mental Science.' Dr. Harrington Tuke advocates feeding with a nasal tube not more than sixteen inches long and about the size of a No. 6 catheter. We have in practice found it more difficult to pass the nasal than the œsophageal tube, and when it becomes a question of passing a tube at all we prefer the old method of passing a large one through the mouth. If any of our readers should doubt this, let them try the nasal tube and they may succeed better than we have done. Fortunately these passages to the stomach leave a choice, and they differ in different people. With small nostrils and an aquiline nose the nasal passage may be difficult. A complete set of strong teeth firmly clenched may not be easy to open. When a few teeth have been lost by natural decay there can be little difficulty in getting food through its natural passage. To pass a tube through the mouth the patient should be seated in a strong chair, in which if he resists he should be held by means of sheets wrapped round the body of the patient and the back of the chair and held by attendants. The jaws are then opened if necessary by means of an expanding wedge worked by a screw to admit the wooden gag with its orifice for the tube being inserted between the teeth. The patient's head being held back the tube is passed and the food injected either with a brass syringe or an india-rubber bag. We have never known any harm done to an insane patient by the use of the stomach-pump, although many instances are on record of fatal injury to the coats of the stomach when the instrument has been used to remove poison. Of the latter kind we remember an instance during our studentship at the University College Hospital. A man was treated under the supposition that he had swallowed half an ounce of arsenic and he died. It turned out, however, that the chemist had supplied him with sulphate of lime instead of arsenic, and that the operator in

washing the gypsum out of the stomach had sucked the mucous membrane into the holes of the tube and with fatal consequences. But in forcible alimentation this danger is not incurred, since the operation consists in injection only.

One great advantage of the large œsophageal tube is that all manner of aliments can be passed through it. No longer are we restricted to wine and brandy, egg and beef tea; we may and ought to supply not only the nitrogenous and carbonaceous foods, ground meat and meal, but also pulped vegetables as anti-scorbutics, and a man might be made fat in this way like a crammed turkey, or like McNaughton, whom Dr. Wood has told about refusing food until this physician fed him up with the stomach-pump, and until agent and patient laughed at each other across the syringe at the robustness and obesity of the man who could not eat. But after all either the regular stomach-pump, or the nasal tube, or any modifications of these injecting instruments are only of very rare and occasional value in the treatment of the insane. The refusal of food is only too common, but the instances in which any desired quantity of food cannot be introduced into the stomach by swallowing are very rare. In the Devon Asylum for every patient fed through a tube there were at least twenty who were fed without or against their will by spoons, pap-boats, and various devices for introducing food into the mouth, from whence it was swallowed. With skilful and patient attendants under the immediate direction of the physician food may be introduced into the mouth of an insane patient by various instruments. Dr. Sankey prefers a wooden spoon; Dr. D. Williams two iron ones, one to depress the tongue and the other to give the food. We were in the habit of using for mindless patients a pap-boat with an air-tube controlled by the thumb so that the food could only flow when the thumb was removed. For patients who resisted we used a large medicine spoon with an air-tight lid, and also a thumb-tube. It contained two ounces for two acts of deglutition, one fluid ounce being about as much as a patient can be expected to swallow at once. By persuasion, a little force, and much patience, the lip of this spoon can almost always be introduced within the mouth, and if the teeth are deficient on one side there can be no difficulty; and thus patients were habitually fed in our asylum in a manner more or less forced and with such success that injection through a tube had

not to be resorted to for years in an institution containing nearly 700 patients and admitting new patients at the rate of 150 in the year.

One great advantage of this unformidable mode of feeding is that it is likely to be adopted at a sufficiently early date. When the apparatus of the stomach-pump, either through nose or mouth, is to be used, and of course used only by the professional attendant, its use is apt to be delayed until the patient has suffered so much from inanition that his downward course cannot be arrested. Our strongest advice is that however you decide to feed, feed early. In cases of acute delirium you must begin to feed almost from the first outbreak of the disease, for it is a question between feeding and living. The only cases in which we advise delay are those in which there may be reason to suspect that the refusal of food is dependent upon a foul state of the primæ viæ. In these cases, indicated by fœtid breath, creamy tongue, and disordered evacuations, endeavour by aperients, by enemata, and by mercurials, to act on the hepatic and alvine secretions to bring about a more favorable condition for the digestion of food. After this has been done, its ingestion will frequently be wonderfully facilitated.

The decision as to the time when forceable feeding has become needful will depend not only upon the degree of inanition, but upon the balance which exists between the degenerative exhaustion and the alimentative repair of the tissues. In acute delirium the exhaustion is rapid; in lunatics with delusions causing refusal of food it is often as slow as it would be in healthy people. The latter may safely be allowed to feel some of the pangs of hunger before food is thrust into their stomachs. Oftentimes they will not refuse to drink although they will refuse to eat, and if weak broths, teas, and other nutritive drinks be supplied to them, they will sometimes outlive the delusion without loss of health or strength. In the majority of cases, however, the golden rule is to feed early and to feed abundantly.

Nutritive enemata are not of much use, so little, indeed, that they may well be dispensed with; but as an auxiliary resource we can recommend that the whole body should be well rubbed all over twice a day with oil. We have known this resource of great service where inanition was threatened from constant vomiting.

There are some remote causes of Insanity from which so large a number of cases appear to take their rise, that whether they impress a definite character or not upon the disease which follows, the treatment of the mental disease, caused by or associated with them, deserves separate consideration. Whether these cases constitute definite kinds of disease, and are, therefore, fit groups for classification according to the doctrine of J. S. Mill, or whether they present to us the typical forms which Whewell recognises as the characteristic of a natural class, we need not discuss in this place. Sufficient is it that in these groups of cases a certain antecedent or accompaniment impresses a character upon the disease which does materially influence treatment.

Epilepsy, causing and accompanying Insanity, is, perhaps, the most important. Epileptic Insanity has been described in earlier pages, its intermissions, its accessions of blind and dangerous fury, its tendency towards dementia, and the hopelessness of real cure. In treatment there are several special points to be considered. As a very general rule the epileptic insane, although they ought to be well nourished, should be debarred from the use of all stimulants, even so mild a dietetic stimulant as the table beer, which is beneficial to other chronic lunatics, ought to be denied to them. When their accession of excitement comes on, moral treatment is absolutely useless. Precaution against mischief is nearly all that can be done in this direction. Dr. Clouston says that a long deep sleep produced by chloral will frequently avert the maniacal paroxysm if it is produced when the symptoms of excitement are first perceived. Bromide of potassium, however, is the great remedy, and this undoubtedly in many instances arrests the epilepsy, and thus saves whatever remainder of mind may have been left by the disease. We have seen nitrate of silver and sulphate of zinc apparently cure Epileptic Insanity, but the disease always returned. These and many other remedies will, at least, suspend or ameliorate Epileptic Insanity, if only for a time, but it is to be hoped that the effects of the bromide will prove permanent; they have in many cases done so, and the continued use of the drug does not often appear to cause other injurious effects than the disfiguring acne which it so often occasions. We have been informed, however, by physicians of large asylum experience, that they have been induced to discontinue the use of the bromide in many cases on account of the tendency to which it gives rise to

the formation of troublesome suppurating inflammations and sores in the slightest abrasion or injury to the skin.

At the Devon Asylum we tried Marshall Hall's remedy for epilepsy, namely, tracheotomy, and have somewhere in the 'Lancet' recorded our experience. Marshall Hall maintained that the *grand mal* was occasioned by spasm of the glottis, producing temporary suffocation and coma from undecarbonised blood. And in one instance, at least, we fondly thought that we had established the truth of his theory. A robust young woman, subject to severe epilepsy and maniacal excitement following the attack, wore a silver tube in her trachea for many months, we think it was for more than a year, and during this time the fits became exceedingly slight and were followed by no mental excitement, but, alas! the end of it was that a great accession of epilepsy took place, fit succeeding fit in what Dr. Crichton Browne calls the *status epilepticus*, and we had to watch her as she died comatose with the tracheal tube in position. She was suffocated by spasm of the pectoral muscles of respiration and of the diaphragm, although the tracheal opening into the lungs was absolutely free.

As a protection to the heads and faces of epileptics in their falls we invented the stuffed ring cap, 'Asylum Journal,' No. 1, and as some safeguard against suffocation in bed by the epileptic turning over in a fit, and thus impeding his already embarrassed respiration, we also invented the ventilating wedge-shaped pillow. In asylums these appliances are not without their use, but the best protection to an epileptic is a companion or an attendant constantly at his side.

Whether *Hysterical Insanity* is a frequent type form is somewhat doubtful. The vast number of women who are hysterical through the whole of middle life without displaying the slightest tendency to become insane appears to be an adverse fact which it is difficult to explain away. But if from hereditary predisposition or other causes an hysterical woman does become insane, the general neurosis imparts a very special character to the mental disease. The vesania, indeed, seems to grow out of the neurosis. Unlike the epileptics these patients are especially amenable to moral treatment. They must be brought under the influence of a firm will, their fancies and follies must be resisted, they must be subjected to a just and methodical rule, and their tendencies to

lying, deceit, and immodesty, must be steadily suppressed. They must have good food, abundant exercise in the open air, and a morning shower-bath, and such enjoyment as lunatics derive from balls, concerts, theatrical representations, must be permitted to them with prudent limitation. Drugs are sometimes useful, as valerian and the fœtid gums, but moral treatment and the tonic regimen are the main things indicated.

Onanism is a frequent accompaniment of Insanity and sometimes causes it, not so frequently, however, as the late Dr. Copland maintained, who thought it was the most prolific of all the sources of mental disease. It is a vice of town populations, and there is comparatively little of it in the country. However, when carried to great excess, it stamps a peculiar character upon the lunatic. The treatment is to prevent the habit if possible, but no means have yet been devised by which this can be done. Blistering the prepuce we have found useful, but only for a time. In females even clitoridectomy has failed. A tonic regimen including plenty of open-air work, and combined with chalybeates and other tonic medicines, will do something to keep up the strength and make the patient sleep at night long enough to abridge the time which he can devote to self-abuse, and such a patient ought to be allowed to be in bed only during the hours which are required for needful sleep. No doubt the habit might be stopped, at least in men, if the measures resorted to for the purpose were remorselessly stringent. A constant attendant by day with mechanical restraint by night, with bedclothes raised upon a cradle, would surely leave the miserable being no opportunity for the fatal indulgence of his wretched pleasures. But he would, no doubt, return to them as soon as the restrictions were intermitted, and life under their perpetual continuance would not be worth prolonging or preserving at such cost.

Bromide of potassium given freely and continuously takes away sexual desire and competence, but it produces great weakness and emaciation and cannot be continued for any length of time; therefore it is only a temporising remedy, and, as far as we know, there is no permanent one. We have used Faradisation to the spine with benefit, but this also was temporary. If it could be supposed that any great mind likely to be of use to the human race was in danger of being destroyed and lost through this habit, the question might fairly arise whether an effectual operation

was justifiable; but those miserable helots of sensation who are the usual victims of this despicable vice are not worth the responsibility even of such a thought.

Syphilitic Insanity is not a common form, and the secondary and tertiary forms of syphilis may and do often coexist with nervous forms of mental disease without any pathological connection as cause and effect. The destructive tertiary effects of syphilis may implicate cranium, dura mater, and even portions of the brain, without causing mental disease, and Insanity is certainly not a frequent occurrence in Lock hospitals.

When, however, there is good reason to believe from the history of the case and from the symptoms that the mental disorder has been caused by the syphilitic cachexia, or even when the latter is present only as a pathological contemporary, the treatment must be anti-syphilitic rather than psychiatric, for it is not probable that Insanity can be cured in a patient suffering from any cachexia, much less from so pervading and noxious a one as that of syphilis.

The first point to determine is whether the syphilitic condition present is secondary or tertiary. If secondary, as indicated by the presence of affections of the skin and the mucous membranes, or by iritis, or pains in the muscles, joints, and bones, by periostitis and nodes, a condition in which the venereal poison still exists and may be transmitted, then mercury is beneficial and iodine is of but little or no service.

If the pathological conditions present are those which indicate tertiary syphilis, in which the venereal poison no longer exists in a form which can be transmitted to others, a state of cachexia which is indicated by inflammations of the fibrous membranes, by caries, and necrosis of bone, by rupia and sloughing ulcers of the skin and other soft parts, by deposits of imperfectly organised fibro-plastic lymph in the areolar tissue of various parts and organs,—in such cases the remedies required are iodine and sarsaparilla, and mercury is injurious.

Mr. Lane lays down the above distinction very clearly in a Lecture which will be found in the 'British Medical Journal' of October 11th, 1873, and the treatment which this excellent authority recommends for the tertiary cachexy is as follows:

"All evacuants, and especially preparations of mercury, all debilitating influences, all wear and tear of the system, such as over-exertion of mind or body in business or

pleasure, should be avoided: on the contrary, tonic, stimulant, and restorative measures, combined with good generous diet and judicious hygienic regulations, are the most likely means to prove beneficial. Such, in fact, are the principles upon which the treatment should be conducted whatever theory you may adopt, and whether that which I have advanced be right or wrong.

"It must be confessed that the ordinary tonics, bark, and especially preparations of iron, are not to be depended upon, and must give place to special remedies employed empirically, such as iodine and sarsaparilla.

"In syphilitic cachexia, whatever may be the existing symptoms of the complaint, the treatment consists in the administration of iodide of potassium in from three to ten-grain doses, taken in a third of a pint of the simple or compound decoction of sarsaparilla as a vehicle, alternating with a pill of two grains of quinine and three grains of confection of opium, also taken thrice daily. Exceptional cases may require the iodide to be increased to fifteen or twenty grains, and an additional dose of opium at night will often be found necessary. I have been disappointed, as I have before mentioned, with the preparations of steel or other tonics in these affections. Opium has appeared to me beneficial in two ways—firstly, by soothing pain and allaying irritability; and secondly, by moderating the amount of the several secretions, and thus preventing all unnecessary waste."

All the cases of Insanity complicated with syphilis which we have met with had the tertiary cachexy, and all of them were treated with more or less benefit by the iodide of potassium with tonic regimen; but, according to the symptoms recorded by the German authors referred to at p. 387, mental disease is sometimes the result or the concomitant of the secondary state; in which case we should prescribe mercury, and especially the bichloride.

In the present state of our knowledge, we think that no physician would be justified in treating any insane patient for Syphilitic Insanity unless the symptoms of syphilitic cachexia were actually present. Without these Syphilitic Insanity is a doubtful type.

We meet with a certain number of cases in lunatic asylums which have the syphilitic cachexia, and we say that these are cases of Syphilitic Insanity, but we ought rather to have gone to Lock hospitals and inquired how many cases of syphilitic cachexia become insane. We ought to make sure that a greater proportion of syphilitic persons do become insane than the ordinary proportion which prevails among persons in bad bodily health suffering at the same time from fear, shame, remorse, and distress. And not only so, but we ought to have ascertained that they become insane in a peculiar manner, with mental and bodily symptoms which are capable of being referred to their bodily disorder, just as cases of Hysterical and Hypochondriacal Insanity are deve-

loped by the growth of the symptoms out of those of the preceding disease. This, however, is not the fact, for we cannot admit that syphilophobia in persons suffering from the cachexia of syphilis is a distinguishing symptom, neither is progressive Dementia one in patients with utterly ruined bodily health.

Puerperal Insanity is a well-defined ætiological class, but it includes most distinct varieties; for cases would have to be arranged under Dr. Batty Tuke's pathological classification as toxic the most common, sympathetic, anæmic, and even phrenitic. The treatment, of course, must vary as much as the enormous difference of pathological condition. Cases of Puerperal Mania are now and then met with in which intense cephalalgia, a strong and rapid pulse, a heightened temperature, and a contracted pupil, indicate a condition nearly allied to phrenitis, and in such cases active purgation, leeches to the temples, the ice cap, and sinapisms to the legs and feet, are the treatment indicated.

By far the most common condition of Puerperal Insanity is blood-poisoning, septicæmia, of which there are various sources, the effete elements of the disintegrating uterus, retained alvine evacuations, the elements of the new milk secretion, and, according to Sir James Simpson, the urinary excrements. Of these the reabsorbed uterine materials are by far the most important. In a very large proportion of cases, local precede the mental symptoms, and eight out of ten patients, according to Braxton Hicks, have offensive lochia. The treatment in these cases is antiseptic, eliminative, and anodyne. Vaginal injections, containing Condy's fluid, or other antiseptics, emetics, and purgatives, are the remedies to be first thought of. An emetic of ipecacuanha, then a dose of calomel, followed by the common black draught, are the drugs we prefer; but the compound decoction of aloes, with or without the compound scammony powder, is a most useful drug-form for this purpose, and the action of castor oil and of purgative enemata in removing scybala must not be forgotten. When furred tongue, fœtor of breath, a discoloured conjunctiva, and constipation exist, a dose of calomel, followed by somewhat drastic purgatives, will sometimes produce an enormous discharge of alvine accumulation, followed by almost immediate relief to the head symptoms.

After purgation the saline sudorifics should be given if the skin is dry and the urine scanty, as so frequently is the case. The acetate of ammonia, with abundance of diluents, should be com-

bined with warm bathing, and if the urine is scanty it should be combined with the nitrate of potass.

Anodynes, however, are the most important remedy after purgation if it be needed, and of these we must confess to the retention of our old preference for the preparations of opium. After the muriate of morphia, the liquor opii sedativus is the preparation we have most frequently prescribed, but Squire's solution of the bimeconate is perhaps still better.

In the sympathetic cases which appear to arise from the physical suffering of parturition or from the nervous irritations incident to women in their most susceptible state, whether produced by physical or mental pain, purgation or other exhausting measures must, of course, be omitted, or only used in such mild degrees as the state of primæ viæ and the secretions seem to demand, and anodynes may safely be combined with stimulants. We have found opium or morphia combined with sulphuric ether the most useful form.

Bromide of potassium and chloral have been recommended in Puerperal Insanity, but we think that the judicious use of opium is preferable after the secretions have been rendered normal by the employment of other remedies. Chloral may possibly cut short an attack if given at an early period, but of this we have no experience. In the anæmic form of Puerperal Insanity, including that of Lactation, the preparations of iron, and especially the old tincture of the sesquichloride, are most useful. This preparation is more stable and far more agreeable than the tincture of the perchloride which has taken its place in the new Pharmacopœia, which deposits a sediment, with a most unpleasant evolution of chlorine when mixed with water. In these cases also, which are generally melancholic, morphia used in small doses as an antitriptic is frequently highly beneficial.

Great care is needed in this form of mental disease to guard against homicidal or rather infanticidal attempts, for the desire to destroy the infant, either instigated by perverted emotion or by delusion, is exceedingly common. This peculiarity has its strong prototype in the brute creation, especially in some domesticated animals. Suicidal tendency also is very common.

General Paralysis or Paresis.—The therapeutic treatment in this disease may hitherto be said to be *nil*, for it is invariably fatal. There is no reason, we are aware of, why this should be so, nor

why some remedy or combination of remedies may not yet be discovered, with power to arrest and counteract the organic changes which slowly take place in the cord and the brain, and such well-intentioned experiments as Dr. Crichton Browne has made with Calabar bean and other drugs may not always be unsuccessful. It is only of late years that the attention of physicians has been prominently directed to the true locality of this disease in the spinal cord, and local therapeutics to that organ have scarcely yet been attempted. If the cure of this disease, however, cannot yet be the aim of the physician, its medical management is highly important.

In the early stages the first indication is to keep the patient fairly well nourished, but not highly fed. Early paralytics have a tendency to become full-blooded, a condition which promotes the two most troublesome and injurious incidents of this stage, namely, accessions of maniacal excitement and convulsions.

The early paralytic is more likely to commit theft than murder, but he is very unsafe notwithstanding, and when the temporary excitement, from which he frequently suffers, is intractable by moral means, we have no hesitation in recommending chloral to produce tranquillity, although many good alienists consider that it hastens somewhat the downward progress of this malady. The patient, however, picks up strength again very quickly if he be kept on his legs in the open air; and we have yet to learn that the occasional use of chloral shortens even this condemned life.

The convulsions which occur in most cases of General Paralysis (some say in all, but this we deny) have a more directly injurious effect upon the progress of the case than intercurrent excitement. These convulsions, which more nearly resemble those of teething children or of puerperal women than the convulsions of epilepsy, will be found always to leave behind them a marked bad effect both upon the paralytic condition of the body and the demented condition of the mind. They must be treated without depletion by sinapisms to the legs and feet, enemata of turpentine and castor oil, and cold applications to the head.

In the later stages the patient must have fuller and more stimulating nourishment. Dietetic stimulants may now be safely allowed in considerable quantity. One of the main points, however, is to prevent the patient as long as possible from becoming a bed-lier. When once this happens, it will be found no easy matter to keep him dry and clean, and to prevent bed-sores or asthenic

gangrene. When we first commenced asylum practice, bed-sores in advanced General Paralysis were the general rule; now they are the unfortunate exception. This change is to be attributed to the present practice of keeping such patients out of bed during the day, and keeping them dry during the night. In some cases frightful bed-sores will occur despite of all care, but the condition of our asylum infirmaries, crowded as some of them are with these paralytic patients, is wonderfully different from what we remember thirty years ago.

We drew attention to this point in the early pages of the 'Asylum Journal,' vol. i, p. 200, in which we also gave a lithograph of the reclining chair invented by us, out of which it is impossible for a paralytic to tumble. We there state that "it may be taken as a maxim that the longer the patient can be prevented from becoming bed-ridden the longer will he live, and the less miserable will be the remnant of his life to himself and the less obnoxious to those around him. Besides preventing bed-sores, the daily change from the bed to the easy-chair exercises a decidedly beneficial influence upon the bodily and mental condition of the helpless paralytic almost to the very last. It maintains in greater activity the small amount of cerebral function which remains; it aerates the body and postpones the rapid decay and degradation of the functions which take place when permanent continuance in bed at last becomes inevitable."

At the last stage of all, water-beds are a resource, but even they will not prevent bed-sores, for we have seen the pressure of the hand, lying upon the abdomen, and of the knees and ankles pressing each other, produce this nasty complication.

On the treatment of bed-sores see 'Asylum Journal,' vol. i, p. 60. For hardening the skin we found a mixture of equal parts of tincture of kino and Goulard extract, producing a semifluid tannate of lead, the best application. To disinfect the gangrenous parts chlorine washes would now be well replaced by Condy's fluid. To promote the separation of a slough the free application of powdered cinchona bark is most useful.

A distressing accident to which general paralytics are especially liable is either the impaction of a morsel of food in the pharynx, or its passage into the larynx. As we have explained in the chapter on Pathology, the excitor-motor nerves are disqualified by the spinal disease; perhaps even they are themselves diseased. The

result is, that the constrictor muscles of the pharynx cannot pass the food downwards, or the muscles which ought to close the larynx when food is being swallowed fail to do so, and the morsel passes into the air-tube. We have found both these conditions on examination after death, the impaction in the pharynx being certainly the most frequent. Food in the larynx we have only found twice. When this occurs death is pretty certain to follow, for tracheotomy is not an operation which is capable of being performed in a few seconds. Impaction in the pharynx, however, admits of immediate relief. Pull the tongue forward and pass the finger resolutely into the pharynx and remove the obstructing mass. We instructed attendants in this simple device, and thereby saved many lives; for suffocation is an incident which will not brook delay even for a medical man to come who is resident in the institution.

Hypochondriacal Insanity is undoubtedly a distinct variety of mental disease, for simple hypochondriasis may and does pass by mere increase and exacerbation of symptoms into a state which is proved by the existence of real morbid delusions to be one of mental disease, and this transition from a neurosis to a vesania is often so gradual as to leave no exact boundary mark where the more formidable condition has commenced. The medicinal treatment, however, is that of hypochondriasis, and is quite as unsatisfactory. It is difficult in diagnosis to distinguish this variety from that which has been called Intestinal Insanity, and certainly the treatment has to be directed to the same purposes, namely, to the removal of various forms of indigestion and hepatic and intestinal torpor. Aloetic purgatives combined with fœtid gums are most indicated. Busy occupation in wholesome out-of-door work has often a good effect in keeping at bay the wretched subjective delusions. It will be observed that the delusions which are quoted by us from Burton as having been cured by trick and deceit were mostly of the subjective hypochondriacal class.

Résumé.—It will be useful to give a brief *résumé* of the principles upon which the active remedies should be prescribed whose employment in mental disease has been here treated upon.

In the first place, it is a question of the utmost importance to decide when active remedies are needful. In the chronic stages of Insanity active remedies are rarely admissible, except to obviate some intercurrent condition which produces too much disturbance

and danger to be permitted to run a natural course, and wear itself out. In recent Insanity with symptoms of physical disturbance of little violence and urgency, active medicinal treatment may oftentimes be dispensed with. The removal, or the cessation, of the causes of the disease, and the influences of mental and physical regimen, often suffice to place the patient in a condition so favorable to the subsidence of the form of mental disease under which he suffers, that any active medicinal interference is more likely to do harm than good. One of the most important and difficult lessons for a young physician to learn is, to know when to abstain from interference with the laws which regulate the rise, progress, and subsidence of disease; it is a lesson which can only be learned by long experience. As a rule, interference should not be directed against abnormal conditions of the mind, however recent, unless they appear to be dependent upon pathological states of the body which are understood and known to be susceptible of change or removal. Interfering treatment should not always be employed when the physical functions are obviously deranged: thus, many patients are brought to asylums suffering from recent not acute insanity from moral causes, in whom the physical functions are generally but moderately disturbed,—appetite and sleep are impaired, and the nervous system is in a state too excitable or impressionable. In many such cases the influences which attend residence in an asylum, including removal of cause, change of scene, regular hours and diet, occupation without excitement, and tranquillity without dulness, favour the operation of laws tending to a natural solution in health, without the administration of a single dose of any kind of medicine. On the other hand, recent disease, with symptoms of an acute and violent character, is rarely unattended either by the persisting physical causes of the disease, or by such pathological conditions as do not, if left to themselves, tend to a natural resolution in health. Thus a suppressed secretion, or discharge is a persistent cause which requires active interference; the total want of sleep is the sign of a pathological condition becoming in itself a cause of degenerative change, which if left to the laws of disease, tends in many instances to death, and in many others to the continuance of Insanity in an incurable form.

Active medical interference, therefore, is most needful in the acute and violent forms of Mania and Melancholia; its first and

main end being frequently the production of sleep; in some cases this is obtained by relieving cerebral hyperæmia; in others, by obviating an irritable condition of the brain, either by the administration of narcotics alone, or in combination with stimulants and nutriment. After the first storm of violence has subsided, and a fair proportion of sleep, with a comparative degree of waking tranquillity has been obtained, medical interference may be usefully directed to the restoration of disordered secretions and physical functions, to the restoration of suppressed catamenia, to regulating the action of the liver and intestines, and to promoting the secreting functions of the skin.

In the early stages of these acute forms, regimenal treatment must be mainly directed to the abstraction of all causes of excitement. The absence of friends who excite emotion; the absence of familiar objects of occupation which excite morbid thought; the absence of noise and conversation; the absence of all stimulants of cerebral activity must be provided for. The range of physical symptoms in these forms of disease is very wide, extending from cases in which there is almost an absence of such symptoms, to those in which there is a close approximation to some forms of cerebral inflammation; therefore no precise rules can be laid down for their regimenal treatment. In many cases, conversation, occupation, and other means for distracting the mind, are most useful; and even the extended and prolonged muscular exercise, which has been so strongly recommended by some physicians as an important means of treatment in all cases of acute Mania—even this may be found, in some cases, to be a most useful means of reducing nervous irritability and procuring sleep. But, in many cases, it would be as rational to compel a patient suffering from acute Mania to take prolonged and extended muscular exercise as it would be to force a patient suffering from meningitis, or a patient in the last stage of nervous excitement from delirium tremens, to do so. In either case, such treatment would probably result in the death of the patient. Common sense and experience alike dictate that in cases of maniacal delirium—of acute Mania approaching in character to cerebral inflammation, the removal of all sources of excitement, and of all influences tending to increase the action of the heart, is indispensable; and that in cases of acute Mania verging in character upon delirium tremens, and in typhus-like cases, muscular exertion and all sources of exhaustion

must be studiously avoided. Doubtless many cases do occur in which a superabundant nervous energy appears to be directed to the muscles, and in which there is no evidence of active hyperæmia of the brain nor of nervous depression. In such cases, "prolonged and extended muscular exercise" produces a tranquillising effect on the mind, of value in the treatment. But to prescribe prolonged and extended muscular exercise in all cases of acute Mania is as much opposed to the spirit of rational medicine as it would be to prescribe some one remedy in all states and forms of acute dyspepsia, because in one form of this disease it is occasionally useful.

In the latter stages of curable Insanity, interfering treatment is still often needed to procure sleep, to remove persisting causes of disease—such as suppressed or excessive discharges, to remove foci of nervous irritation—such as an irritable uterus, to correct tendencies to cerebral hyperæmia or irritation by the use of leeches, setons, or counter-irritants, to correct disordered secretions, to correct any abnormal states of the assimilative apparatus, and to invigorate nervous tone.

Regimenal measures are also, in these stages of Mania, to be directed to the same purposes. Regular muscular exercise in the open air now becomes of great therapeutic value. Cold bathing to brace the nervous system, and nutritious diet to promote the regenerative nutrition of the brain, are not less needful. At the same time there is less danger, on the one hand, from excitement influencing unfavourably the cerebral circulation, and from exhaustion, on the other, telling prejudicially upon the worn-out nervous energies. In these stages, occupation and amusement become restorative—promoting the normal action, not only of the mental, but of the purely physical functions, and especially those of assimilation and secretion. In the occupation of gardener or agriculturist, the exhausted Antæus falls upon his mother Earth, and derives renewed vigour from the contact.

No practical distinction can be drawn between the medicinal treatment of Mania and that of Melancholia. In the acute forms, the pathological conditions upon which they depend appear identical, although hyperæmia is more frequent in Mania, anæmia and irritability more frequent in Melancholia. Local depletion and refrigeration, therefore, are more called for in Mania, narcotics and baths in Melancholia. In the latter, also, the functions of

assimilation and secretion are more profoundly disturbed, and their rectification demands more close attention. There appears to us, however, to be no sound foundation for the theory, and the practice hanging upon it, that Mania is the disease of youth, strength, and functional activity, and Melancholia that of age, weakness, and functional depression; for we see Mania with the utmost weakness of the bodily functions and Melancholia with their utmost vigour, and we see Mania change into Melancholia, and the contrary, and that without any obvious change in the general bodily functions. Depressing emotions do, no doubt, depress the bodily functions, and exhilarating ones quicken their activity; but whether at the outbreak of Insanity the emotions shall be expansive or depressed, and whether the delusions shall be of a cheerful or a gloomy character, appears to depend upon the manner in which the brain was organised, nourished, trained and cultured, and not upon the vigour of the heart or the integrity of the abdominal viscera.

In the less acute forms of Melancholia an indication of treatment exists which is not met with in Mania. It is that of removing painful states of feeling through the influence of narcotics. The cœnæsthesis or self-feeling of Crichton, or, as Dr. H. Monro has recently termed it, the functional sense, is the frequent cause of the emotional disturbance in the slower forms of Melancholia. Morphia, taken for a long period, influences this state most beneficially, and thus frequently effects a cure of the mental disturbance in a manner which gives the appearance of more direct medication of the mind than in any other form of treatment of mental disease.

When the acute symptoms of recent cases have subsided, the indications of treatment are generally tonic and restorative. With this view, pharmaceutical agencies are of infinitely less importance than regimenal ones. Many cases, however, occur in which quinine dissolved in wine is found useful, and a few in which the mineral acids, or the diffusible alkali with bitters, assist the best directed measures of regimen. The most efficient tonic regimen is derived from exercise in pure country air, to which excitement is given by agreeable out-door occupation and amusement, by the daily use of cold sponging or bathing, by an ample supply of nutritious food, good clothing, bright and well ventilated apartments, and those general appliances of a well-regulated domicile

which promote physical health and mental cheerfulness. It is at this period that the beneficial influence of the sane upon the insane mind—that is, moral treatment properly so called—is most felt. At this period cod-liver oil is often useful. It is also the time for the diligent application of counter-irritants to the scalp, in those cases where physical health is restored, while the loss of mental power threatens the hopeless passage into dementia. In other cases, where cephalalgia, with heat of head, with angry irritability and tendency to violent excitement, continues for a long period after the subsidence of the acute symptoms, and threatens the transition into chronic mania, mercurials given to touch the gums, intermitted for six or eight weeks, and again given, ought, we think, to be tried. So many cases of this kind have recovered under this treatment, that, notwithstanding the contra-indication of mercurials in Insanity, under the threatening circumstances above described, the patient ought not to be deprived of the chance thus afforded. When successful, the mercurial action probably is so by changing the action in some small portion of the brain-substance, or membranes, in which something closely allied to inflammation has existed, the continuance of which, in some chronic form of hyperæmia, serves as a *foyer* of irritation to the whole organ. Sometimes, in these cases, a large quantity of mercury may be taken, without affecting the gums, or in any way appearing to influence the system; in such cases, if the strength of the patient will bear it, a seton should be placed in the nape; this promotes the influence of the mercury, and has often appeared to ensure its success. The influence of the mercury should be slow and sustained. Five grains of Plummer's pill twice a day is a good form under which to obtain it. The eighth or tenth of a grain of the bichloride, however, given two or three times a day, is to be preferred when the secretions are in a satisfactory state.

In primary or acute Dementia the indications of therapeutical treatment are often slight, or altogether absent. Sometimes the signs of gastric disturbance exist; there is little appetite, and the tongue is pale and coated, or red and dry. In such cases, remedies judiciously addressed to the state of the stomach often do good. In some cases, where there appears to be a debilitated, flabby condition of the mucous membrane, small doses of balsam copaibæ, diffused in bitter infusion, often do good. In irritable conditions of the gastric mucous membrane, the usual remedies must be given.

When the catamenia have been suppressed, remedies must be directed to their restoration; and of all remedies for this purpose which have been employed by us none will bear comparison with the electro-galvanic current passed through the pelvis for the space of half an hour daily. The mere sensations produced by this remedy also are not without their use in primary Dementia. A strong physical sensation often rouses the attention, and sets afoot the other faculties of the mind; and it is probably on this principle that blisters to the nape do good in this form of Dementia, rather than by any physical influence they exert. A bracing tonic regimen, and especially the influence of pure air, good food, and cold bathing, are useful in this form of mental disease, which, in practice, is found to be far more curable than appearances would lead the inexperienced to suppose.

Another point on which we must say a parting word is that tendency to employ single remedies only, with the purpose of observing more accurately their effects. This method is, without doubt, scientific and of great value, but as a matter of treatment it is open to objection. Before we can properly combine and use medicines therapeutically, we must know what they are worth by themselves, and the investigations of Dr. Crichton Browne on ergot, Calabar bean and nitrate of amyl, and of Dr. Clouston on bromide of potassium, and of Dr. Robertson on digitalis, are worthy of all honour. But that single medicines do not possess the power of curing disease like skilfully combined ones is a fact which none of the great physicians even of our own time can be cited to contradict, and among the older physicians the skill of combination was carried to a high art. The one-drug investigations of the present day have no relation except that of contrast with such teaching as that which is contained in Paris's 'Pharmacologia,' and thus it is well to remember that in dealing with complicated states, like that of many concrete cases of Insanity in which sometimes several diseases are coexistent, the pharmaceutical skill of the prescribing physician is often far more successful than the stricter method of the investigator. The question, what is this drug worth? is different to that other question, how shall I cure this patient? and both are right in the right place. The patients in our institutions supported by public funds may fairly be required to forego some margin of their advantages for the sake of a great public benefit which the precise

determination of a drug's value undoubtedly is. But the physician in the usual practise of his art must, like Saint Paul, be all things to all men, that by any means he may save some; he must vary and change and combine the powers he employs, so that when the patient is cured he may often be unable to say which drug or part of his treatment has had the most curative effect.

APPENDICES.

No. 1.

CASES ILLUSTRATED BY THE PORTRAITS IN THE FRONTISPIECE.

Acute Mania.

M. D., No. 1198.—The portrait of this patient, which is the upper portrait in the frontispiece, affords an excellent representation of the acute form of Mania. There is much emotional and intellectual disturbance, with comparatively little derangement of the physical health. The patient, who is now thirty years of age, has been a remarkably handsome woman, and indeed still possesses the traces of eminent beauty, although distorted by passion and suffering. Her Insanity was brought on by want and distress, which she endured after the birth of an illegitimate child. When brought to the asylum she was emaciated and anæmic, the pulse was feeble, the heart dilated, with irritable and excessive action; the functions of the uterus were normal; under the use of fifteen grains of compound iron pill, twice a day, at the end of three months she recovered, and was discharged. Returning to her home, she met with renewed distress, and suffered a relapse. She believes that she is tormented by witches, and that she is compelled by them to make noises resembling dogs and cats, the crowing of cocks, &c.; she believes that an old woman is shut up in her belly, which she beats violently with the purpose of killing the intruder; she sometimes destroys crockery and glass, and attempts to get up the chimney, although there is a fire in the grate; says she is cut to pieces, and that all the people around her are murderers; she strikes, without warning, straightforward blows at the faces of those who converse with her. The physical functions are regular, and the sleep good. The ferocious expression caught in the photograph passes into one of ungovernable fury, the face becoming almost purple, the veins of the head and neck turgid and swollen, and the saliva hanging on the lips like foam. In less than half an hour, if spoken to kindly and soothingly, she becomes tranquil. Tonic treatment has been indicated in this case; but, at present, good food and occupation are the only remedies likely to be of use.

Monomania of Pride.

E. N., No. 976.—The central portrait of the frontispiece is that of a female, aged 38, the daughter of an officer in the Customs. The cause of her illness is not known, but it appears to have been of long standing. Six years before her admission, she met some soldiers, who, she said, attempted to create a disturbance, and who appear to have frightened her. For some years before her admission, she was in the habit of coming from Devonport to Exeter, whenever the assizes were held at the latter place, in order that she might obtain her rights as Her Majesty's Person. On these occasions, a benevolent magistrate, to whom she had made herself known, used to send her to her home. At last, on one of these occasions, she was thought decidedly unsafe, and was sent to the asylum. Her delusion is that she is Her Majesty's Person—she is not Her Majesty, but Her Person—a distinction on which she lays great stress, but which we have never been able to understand. She is proud, and dignified in her demeanour. Out of the commonest materials of dress she contrives to make a distinguished appearance. She fastens the skirt of her dress low, so as to form a sort of train; and, with arms folded, the head with its coronal ornaments thrown proudly back, she would, if permitted, maintain an erect and regal position from morning to night. As she has a dilated and irritable heart it would be dangerous to permit her to indulge this fancy; and hence arise some differences of opinion between her and those who have the care of her health. The intense pride expressed in the turn of the head and eye, and in the firm compressed lips, cannot be mistaken. It is the physiognomy of one exaggerated emotion, transmuted into one delusive idea.

Congenital Imbecility.

S. J., No. 1471.—The portrait of this youth, the lowest in the frontispiece, represents the vacant, expressionless stare of imbecility. The patient, aged twenty-seven, is the son of a weak-minded father; he has always been of weak mind, but is said to have become much worse since a blow on the head; this, however, is doubtful. When first admitted, he was dirty in his habits, restless and mischievous; a little attention has rendered him cleanly, quiet, and docile. His intellectual power is very low. His head, which has some resemblance to that of a horse, has the macrocephalous shape. The dimensions are as follows:—Height of person, 5 ft. 11 in.; circumference of head, 1 ft. 11 in.; from junction of nasal bones with frontal, to the occipital protuberance, 1 ft. 3 in.; to nape of neck, 1 ft. 4½ in.; from ear to ear, over vertex, 1 ft. 3 in.; from meatus of ear to ear, round chin, 2 ft. 3½ in. The expression of physiognomy is very characteristic of intellectual feebleness; the brow and eye indicate the effort of attention different to the tranquillity of hebetude, which is so characteristically

depicted in the portrait of primary Dementia. But the effort of attention is not seconded by any power of comprehension; the expression is that of intense stupidity.

General Paralysis.

J. D., No. 1623.—The upper side portrait to the left hand (of the spectator) represents a man, aged forty-eight, the subject of General Paralysis. The cause of his Insanity was not known. He had been insane three months before his admission. He had been destructive of clothing, &c., and had been violent to his wife, attempting to pull her ears off. He said that it was his duty to kill her, and yet that he was always at prayer with her and for her. Although he would kick or scratch any patient who inadvertently touched him, his general condition in the asylum was tranquil, verging gradually to mindlessness. He had, only in a modified degree, the delusions of grandeur so common in this form of Insanity. He used to say that he had a gold watch, and gold chain, and very fine clothes, but they were in pawn. Ten months after admission, he had two consecutive attacks of that form of convulsions between apoplexy and epilepsy which is common in General Paralysis. Soon after emerging from the coma of the second attack, he died in bed in a fainting fit. The body was not examined. The portrait shows the curtain-like face, devoid of all expression, a perfect blank of thought and feeling. The head is well shaped, and the features are handsome; but the amount of intellectual expression is less even than that displayed in the face of the idiot. The brows droop over the orbits, and the eyelids over the eyes. The muscles of the mouth and lips are relaxed, and were the patient to attempt to speak they would twitch and quiver; but even photography cannot represent motion, and the blank void of the features in repose is all that can be shown.

Acute Suicidal Melancholia.

J. B., No. 1680.—The upper portrait on the right hand side (of the spectator) is that of a man, aged fifty-six, with acute Melancholia. A carpenter of steady habits, insane four months before admission; had been dull and depressed, and could not attend to his trade; refused to take food, because it was too good for him; was restless by day, and sleepless by night; said that he must be burnt or scalded to death: he made frequent efforts to get at the hot-water taps, in order that he might scald himself, and to get to a little duck pond, scarcely a foot deep, that he might drown himself; ran his head once with violence against a wall, to injure or destroy himself. Constantly undressed himself, and required to have clothing which fastened behind with the asylum buckle. He improved under treatment (opiates at night, and leeches to the temples), but having been visited by his wife, three months after admission, he became much worse; said that his wife was a man dressed in woman's clothes, that she had given him poison in a cake; and from that time to his death required to be fed with a

feeding spoon. Six months after admission, he suffered a severe attack of epilepsy, which was repeated three times during the following month. He died from exhaustion immediately after the last attack.

Post-mortem examination, sixteen hours after death.—Calvarium thick, dense, and irregular, in some places thinner than usual; arachnoid opaque and milky; subarachnoid fluid considerable; grey matter of brain paler than usual; the white substance of a brownish-pink hue, most marked in the parts lying over the lateral ventricles; substance of the brain very firm; lateral ventricles normal; soft commissure quite firm; septum lucidum distinct and firm; vessels at base slightly atheromatous; temporal fossæ strongly marked with the impressions of the convolutions. Specific gravity:—White matter 1045, grey matter 1036, cerebellum 1040.

Comments.—Death followed epileptic convulsions, from chronic change in the nutrition of the brain. The fear of death and the urgent desire to commit self-destruction, however incompatible with each other they appear to the sane mind, are frequently coexistent in the insane. This patient was intensely restless, a condition which, like the tremors of General Paralysis, cannot be represented in a portrait. The physiognomical expression is characteristic of anxiety and fear.

Primary Dementia.

S. T., No. 1475.—The lower portrait on the left hand side (of the spectator) represents a case of primary Dementia. The patient, now aged forty, had a severe attack of typhus fever when nineteen years of age, after which, her husband says that "her jaw dropped, and she has never been perfectly right since." This did not prevent her, however, being married to a shoemaker, and bearing five children, the last of whom, six months old, she suckled to the date of her admission, affording an example of one means by which Insanity is propagated. She was admitted in a state of extreme filth and personal neglect, in the same mental state in which she still remains, namely, a void of sensation, emotion, and thought. On her blank physiognomy there are no traces of passion telling of former storms of Mania, there is not even the slight effort of attention which corrugates the brow of the idiot. She never laughs or weeps, or indicates any want or any annoyance. She knows none of the attendants or patients by name; says she was never married; remembers her maiden name, but appears to have forgotten her married name. If she were accidentally hurt, she would feel but little pain; if she were not fed like an infant, she would die of starvation with little suffering. She is very fat, has a good colour in her cheeks, and her physical functions are performed well The catamenia are suppressed. She seldom moves, feeling no motive to do so. When told to move, she progresses with a short, quick trot, like a young child. She eats ravenously, and would choke herself if her food were not carefully minced. She affords a good example of the extent to which physical health may be retained when the activity of the cerebral functions is reduced to its lowest ebb.

Secondary Dementia.

M. A. Y., No. 1322.—The lower portrait on the right hand side (of the spectator) represents a woman, aged forty-nine, the subject of secondary Dementia. She has been insane two and a half years. The cause was attributed to religious excitement, and the fear of death from disease of the knee-joint. The form of Insanity which first presented itself was that of acute maniacal excitement, with delusions of a religious type, and suicidal desire. She thought that her soul was separated from her body, and that it was for ever lost. She attempted to strangle herself, and also to beat her brains out by running against walls. After admission, this violence subsided, and she passed into a state of chronic excitement, which, with gradually decreasing mental powers, has continued to the present time. She sleeps badly, and believes that she is visited at night by an old lover, towards whom she uses very bad language, and whose supposed attempts to get into bed she resists vigorously. Although quiet enough during the day, she is often, in consequence of this delusion, very noisy at night. During the day, she holds quiet conversations with this lover, and with persons whom she has known in early life. She not only hears but sees these people, and this hallucination has impressed that earnest inquiring look so faithfully given in the portrait. Her memory of early years is much stronger than that of events which have just passed. She cannot tell our name, or the name of the nurses, or any of her fellow-patients; but she can remember the names and residences of the people who lived in the neighbourhood of her home. She takes her food well; but her attention is so feeble that, without great care, she would lapse into dirty habits. The catamenia are regular. The general expression of the face is that of mindlessness, combined with the deep lines of emotional excitement. From the presence of the latter her physiognomy presents a great contrast with that of the instance of primary Dementia on the opposite side of the Plate. The face also presents a striking instance of that want of harmony between the expression of the different features which is often so characteristic a trait of insane physiognomy. The upper part of the face, viewed alone, might be taken to belong to a person in a state of acute Mania; the lower part, viewed alone, might be mistaken for utter fatuity or idiocy.

SOME CASES ILLUSTRATING TREATMENT.

Mania with violence; disuse of restraint; recovery.—Some years since we were called upon to attend a lady of fortune, suffering from violent and destructive Mania. Peculiar circumstances rendered it needful that she should be treated at home. She had been ill about two months. We found her in the charge of a female attendant from one of the London licensed houses, who, as usual, had brought a complete set of restraining apparatus in her trunk. The patient was in her drawing-room, which had been denuded of all

furniture, except two old chairs and a sofa without covering. On the carpetless floor, dressed in an old wrapper, without shoes (which had been taken away lest she should kick the nurse, or throw them at the window), sat a lady with handsome, haggard features, volubly abusing her attendant, a fine, high-spirited young woman, who indicated too much sensibility to the unpleasant epithets poured upon her. On examination, we found our patient to be suffering from what Esquirol called *manie raisonnante*—high mental excitement without delusion, accompanied by violence of conduct more or less under control. Under the treatment to which she had been subjected, this violence had not been controlled. In addition to bad and abusive language, she frequently attacked the nurse and the servants who assisted her, spat upon them, kicked them, bit them, broke windows, destroyed clothing and bedding, threw her plate and food against the wall and the windows, and was altogether as violent as she well could be. The treatment to which she was subjected was, the imposition of the strait-waistcoat whenever her violence and insults exceeded the limits of the nurse's endurance. At night the lady was put into the strait-waistcoat, and tied down to the bed the door of her room was locked, and she was left to herself until morning. She complained bitterly of this treatment, and heaped opprobrious epithets upon her nurse. We substituted for this nurse the services of a woman who was probably her inferior in every natural qualification for a good nurse, but who had never seen a strait-waistcoat applied, and would not have known how to put one on. Compelled to rely on other means than those of forcible repression, this woman exercised towards her charge the soothing influences of never-failing kindness. For a time she underwent as much abuse as her predecessor. But "a soft answer turneth away wrath;" and our mischievous friend soon found it no fun to shoot her arrows of sarcasm and contumely in a direction where they were obviously not felt. The display of violence diminished, *pari passu*, with the war of words. The patient was made comfortable in the condition of her room and of her dress. The second story of her house was devoted solely to her own use, so that in her restless moods she could walk from chamber to chamber. The windows of her bedroom were fitted with convenient shutters, and a second bed arranged in it; so that one or two assistant nurses could sleep or watch, according to the state of the patient at night, who sometimes slept well, and at others was very restless—when she would walk about the room for hours, until in weariness she went to bed, and often slept soundly during the last few hours of the night. In the daytime she took walking exercise in her grounds, and after a while, walks into the country beyond; and in two months from the date of her change of nurses, her state of mind was as good as that which she enjoyed previous to the accession of maniacal symptoms. In this case there was no medical treatment. Morphia was prescribed for the sleeplessness from which the patient had suffered; but the first dose having been followed by headache and feverishness, it was discontinued, and no other treatment was adopted. The very marked change for the better which took place in her condition was attributed solely to the change in the moral influences to which she

was subjected. When the case approached convalescence, the nurse who had been so successful was replaced by an educated lady, who gave her valuable services as the companion of the patient; an arrangement which proved in every way satisfactory. It may here be remarked, that the person best adapted to conduct a case, during its more demonstrative period, is often by no means well suited to do so during its first or prodromic, and its third or convalescing stages. It is not that persons of educated mind will not submit to the indignities and annoyances incurred during attendance upon cases of active Insanity; motives of affection, of benevolence, or of gain, may overcome such repugnance; but it is that the educated and sensitive mind appears practically ill adapted to come into contact with the turbulent emotions and indiscriminating perceptions of the acutely insane. But during the period before Insanity is developed, and during that before convalescence, when its manifestations become less gross, the finer tact and perceptions of an educated person will frequently prove of the utmost service in the moral guidance of the patient. The above is an example of the tranquillising and curative effect of that demeanour which a nurse is compelled, by the non-restraint system, to adopt, and doubtless results from the operation of that law of our nature which may be called *emotional imitation*. This law, which explains the easily moved enthusiasm of crowds, and the causeless panic of armies, is one of the most powerful agents in the moral treatment of the insane. By the force of this law, a susceptible and ill-trained attendant allows herself to be placed in emotional *rapport* with an angry patient; a well-trained and good-humoured attendant, on the contrary, places the patient in emotional *rapport* with herself. It is a fruitful theme, of which our limits scarcely permit us to state the thesis.

Sthenic Mania; recovery under the use of Tartrate of Antimony.—A. C., No. 564.—Wife of a husbandman, aged thirty-four. A month before admission, she had a serious quarrel with her husband about the sale of some apples; from that time has been excitable; has taken knives threatening to injure others and herself; has a delusion that she is a wheelbarrow. Has good-humoured and manageable excitement, but talks bitterly of her husband's ill-usage; is occasionally irritable and passionate. *Bodily condition.*—Appearance healthy, head cool, appetite good, bowels confined; pulse firm, not quick; sleep uncertain. *Treatment.*—Aperients, Antim. P. Tart. gr. $\frac{1}{3}$, ter die. The antimonial produced no nausea; the patient slept well, and took food heartily; began to employ herself, and generally improved. After a month, and at the time of the catamenial period, high maniacal excitement came on, with passionate violence; she was always jumping and racing about, pushing and striking every one she passed; talking incoherently; for three nights sleepless, out of bed, and noisy. Liq. Opii Sed. ℥xl, o. n. The excitement subsided in about a fortnight; she gradually improved in temper, and became cheerful and industrious. During the next two months her delusion disappeared; but she maintained that she had not been out of her mind. In the next month

she changed her mind on this point, and was discharged cured six months after admission.

Acute Mania subsiding into quiet Melancholia; recovery.—J. N. G., No. 555.—An engineer; a clever, industrious man, of steady habits. Three months before admission experienced a severe disappointment, in not getting an order for a certain steam engine which he had calculated upon; he became excited and irritable in manner, neglected his work, and acute Mania gradually came on. *Mental state.*—Extreme excitement; believes that he is going to be shot; asks every one why he is not killed; and begs of them to kill him; shouting all night long; tears his clothes, destroys his bedding, scribbles on the walls and doors; jumps at the gas pipes, and attempts to pull them down; very destructive and violent; wets and dirties his bed; miscalls persons, fancying he has seen every one before; no power of fixing his attention. *Bodily condition.*—Expression pale, wild, haggard; skin clammy; extremities cold, head cool; losing flesh; pulse small and quick; bowels constipated. *Treatment.*—Æther. Sulph., Tinct. Opii, ana ℥xl, ex aqua, 6tis horis; purgatives on alternate mornings. Under this treatment he gained sleep, took food, and improved greatly; still remained occasionally violent, dirty in his habits, quarrelsome and abusve, muttering to himself, and swearing. After five months—has improved considerably; has been employed in the engine house, but requires careful watching, as he is listless, abstracted, and low-spirited. Æther and opium now omitted. Under the influence of agreeable occupation this state gradually wore off during the three following months, and he was discharged recovered, seven months from the time of his admission.

Mania from debility; recovery under the use of quinine and good food.—J. B., No. 1731.—A young man, aged twenty, of no occupation. His mother is insane; he has had feeble health for many years.—*Mental state.*—Maniacal excitement and restlessness, accompanied by delusions that he has the best breed of black horses in the world—that he is the strongest man in the world, and can throw the best wrestler in Devon or Cornwall. Violent—attempting to bite and kick, and mischievous. *Bodily health.*—An exceedingly small, frail, little person, with rachitic curvature of the spine, so great that his back is like the letter D. Body very emaciated and anæmic. Pulse very small and rapid; head cool, tongue clean; sleep none for four nights. *Treatment.*—Morph. Mur. gr. ½, h. s. omni nocte; Quinæ Disulph. gr. ii, Vin. Rub. ℥i, ter die. After some days, cod-liver oil was substituted; but the oil produced sickness, and the quinine and wine were again resorted to, and continued, to a week before his discharge. Extra diet, with strong beef tea and new milk. The patient gradually gained flesh, and acquired strength, and his mental condition improved *pari passu*. He was discharged recovered, three months from admission.

Mania, with limited delusions; Opiate treatment.—W. C., No. 551.—A master carpenter, in good circumstances, of steady and domestic habits,

said to have suffered chagrin from want of children by his marriage. Six months before admission, symptoms of Insanity first showed themselves in a sudden fancy he took to join the Odd Fellows' Society, about which he constantly talked in an excited manner, saying, that all who were not Odd Fellows would be ruined; he took a violent antipathy to his wife, whom he accused of infidelity and of attempts to poison him; has been violent to his wife; followed his brother on the railway, to warn him of spirits which he had seen on the platform; refused food, saying it was poison. *Mental state.*—Is very morose, obstinate, and dissatisfied; angry at his confinement, but most angry at his wife, whom he says he hears outside his room at night; obstinately refusing medicine, and at times abusive, passionate, and violent. *Bodily condition.*—Head over-warm, with frontal pain; tongue white; urine healthy, acid; pulse quick, weak; sleep disturbed. *Treatment.*—Blister to nape; Pil. Hydrarg., with aperients; occasional shower-baths; Tr. Opii ʒj, o. n. After six weeks Ol. Tiglii ad caput tonsum; after two months Ether. S., Tr. Opii, ana ʒss, ex aqua, ter die; repeat Ol. Tiglii ad caput. The patient made no progress for two months from admission. After that time the opiate treatment then adopted appeared to soothe the irritability of his system, and after the third and fourth months he improved rapidly; he was discharged cured in December, 1848, and has remained perfectly well ever since.

Suicidal Melancholia, changing to Mania; treatment of Cerebral Hyperæmia.—G. N., No. 588.—A gentlewoman, aged fifty. Has been a most active, intelligent woman, exemplary in all the social relations, and ruling a large family with much judgment and force of character. Supposed cause of Insanity, the climacteric period. Insane three months. *Mental state.*—Much distress, full of gloomy forebodings, distressed about pecuniary matters, wondering how things are to be paid for, thinks all her family are ruined, &c.; hears noises, which sometimes she wonders at and cannot understand; at others she recognises them for the voices of her children, and then holds conversations with them; has great weariness of life; begs to be hanged or otherwise destroyed, and makes constant efforts to commit self-destruction; watches every opportunity to secrete articles to tie round her neck, and grasps her throat with her hands until she becomes black in the face; when baffled in this, thrusts articles down her throat. All night a special attendant lies on a bed close to her, and the utmost vigilance is needed to prevent the accomplishment of her purpose. *Bodily condition.*—Strong frame, sallow complexion, dense black hair, yellow conjunctiva; forehead cool, vertex over-warm; complains of a sense of fulness and oppression in the head; fixed melancholy expression; good sized square-shaped head; tongue clean, bowels torpid, functions of the uterus suppressed, pulse sharp, rather strong, 136; sleep variable, generally bad. *Treatment.*—Ext. Aloës gr. vj; Pil. Hydrarg. gr. iij, o. m. Lotio evap. ad caput tonsum. Hiruds. vj post aures—after ten days, Calomel gr, vj, P. Jalapæ gr. xij.—Ung. Hydrarg. ʒss in axil. infric.—the system brought slightly under the influence of mercury. In third

month no material change, the sleep somewhat better, pulse varying from 100 to 120, sharp, and not easily compressible; the urine loaded with lithates. She has a constant habit of picking her fingers, producing sores at the roots of the nails; makes constant attempts at self-destruction. Still much heat of the vertex, which is aggravated, together with all the other symptoms, if the bowels are not kept freely evacuated. The treatment was free evacuation of the bowels by means of calomel and jalap, Seidlitz powders, and croton oil in pills. Six leeches were frequently applied to the temples, once, twice, or three times a week. Warm baths every other night, and muriate of morphia. gr. ½ every night. After five months there is a decided improvement; sometimes talks rationally and cheerfully, but has paroxysms of depression, alternating with excitement; still very suicidal; thinks that her daughters are concealed in the house; has become inclined to passionate excitement, to strike people and destroy her clothes; sleeps tolerably; the pulse has fallen to between 80 and 90, and is soft and compressible; is always worse when the bowels are freely evacuated, the head becomes hot, and the pulse rises. After seven months, improvement continued; more tranquil, and can be left more by herself without fear of suicide; still thinks her daughters are in the house, and that every stranger she sees is one of them; works at her needle; has frontal headache; eye restless, suspicious, and angry; appetite and sleep good. After six months she completely lost her suicidal tendency, and her melancholy gave place to a continued angry excitement; very obstinate, and impatient of interference; full of complaints at being kept from home; it often requires several nurses to administer her medicine; sleep somewhat good, sometimes she walks her bed room all night. *Treatment.*—Warm baths. Antim. P. Tart. gr. ⅔, ter die. The antimony produces no nauseating or debilitating effects, the appetite indeed remains good under its use, and the patient gains flesh. She retains her angry, wilful bearing, with strong personal antipathies; while her sarcastic remarks, and shrewd observation of the weak points in the character of those with whom she comes into contact, show that the intellectual faculties retain their full vigour. Improved in the eleventh month, but in the twelfth she became more angry, passionate, and obstinate; says her family are locked up here; the countenance flushed, the head hot, the bowels sluggish notwithstanding aperients; the pulse varying from 100 to 120; no suicidal tendency; sleep fair. *Treatment.*—Calomel, gr. j, ter die. Magnes. Sulph., P. Jalapæ, p. r. n., occasionally Ol. Ricini ℥ij, and to avoid resistance to medicine Jalapine gr. v in food. The calomel continued twenty-eight days did not affect the gums. During the twelfth month great fluctuations—sometimes angry, railing at every one, and at others conversing rationally and courteously. During the thirteenth month improvement continued; talks rationally of her prospects of returning home, and of the different members of her family, whom she now never speaks of as being in the building; has a clear healthy expression, and fuller face; the pulse remains near 100; active aperients still needed; Ol. Ricini ℥j, or calomel and jalap, h. s. Sulph. Magnes. ℥vj, mane. From this time she slowly but steadily improves;

entirely loses all delusions, and angry irritable state of temper, enjoys quiet society and amusements; warmly expresses gratitude for attentions paid her, and fears she has given great trouble. Sleep and appetite very good; has a pleasant, cheerful expression of countenance; the eye, however, is flashing and restless, the pulse continues above 90, and the bowels require daily doses of castor oil. She returned to her home perfectly recovered eighteen months from the time she came under our care. Since that time, now ten years ago, she has been the active mistress of a large household; and, although she has suffered grief in the loss of children, she has not shown the slightest indication of a relapse. The termination of this case, in which the symptoms were so severe and prolonged, in a manner so completely satisfactory, must we think be attributed to the energetic employment of medicinal remedies.

Suicidal Mania with Chorea relieved by opiate treatment.—S. S., No. 1595.—A boy, aged twelve, all his lifetime affected to some extent with chorea. No cause of Insanity known. Had an attack of Mania two years since. A few days before admission made an attempt to hang himself, but was cut down; the rope has left a distinct mark round the neck. Was admitted in a state of acute Mania, with propensity to violence and self-destruction. He attempted to dash his head against the walls; and being placed in the padded room, he lay on the floor crying, "Oh, do kill me! Dash my brains out! Oh, do let me die!" He kicked and bit at the legs and hands of the attendants who had to feed him. He twisted a stocking round his throat, with intent to suffocate himself; and on its being removed, he thrust it down his throat with the same intent. Head very hot, pulse quick, tongue red; refused food; no sleep. *Treatment.*—Warm bath, with cold arrosoir to head for half an hour. Morph. Mur. gr. ½ stat., and repeated every three hours; castor oil. After four days, four leeches to temples. Morph. Mur. gr. ½ twice a day. Under these remedies the suicidal Mania ceased. The morphia was continued twice a day for some weeks, with the effects of procuring good sleep, with quiet mental state during the day, improved appetite and physical strength. This patient recovered, with the exception of the chorea (upon which various remedies, nitrate of silver, oxide of zinc, &c., have had no effect) and a most passionate temper.

Mania relieved by preventing Onanism.—J. B., No. 1710.—A carver and gilder, aged twenty-three, unmarried. Not hereditary, but the father was an habitual drunkard; one of his brothers is a patient in the asylum, and another died epileptic. No cause assignable except father's drunkenness Second attack. Insane eight days before admission. *Mental state.*—Violent in conduct; using abusive, blasphemous, and obscene language; has many delusions, the leading ones being—that he is a great personage, that an immense sum of money has been stolen from him, and that he shall be Mayor of Plymouth, &c.; power of fixing attention lost. *Bodily condition.*—Head hot, conjunctiva suffused, pale face, muscular movements violent,

pulse fast and full, bowels constipated. *Treatment.*—Evaporating lotion to shaved head; ten leeches to temples; castor oil. Six day after—Calomel gr. x, P. Jalap. gr. xv. After a month, Tr. Hyoscyami, Mist. Camph., ana ℥½, omni nocte. A warm bath with cold arrosoir to head, for half an hour every other night. After two months (the head having become cool) the violence subsided, and symptoms of imbecility appeared—croton oil rubbed on the shaven scalp; Extr. Aloës gr. xv, omni mane. After four months—Extr. Aloës, reduced to gr. v. The patient appeared likely to pass into a state of Dementia. He was discovered to be greatly addicted to Onanism; to prevent this, Acetum Lyttæ was applied under the prepuce, with success. He gave up the habit, and from this date gradually improved. He is now convalescent, but cannot sleep without the nightly dose of hyoscyamus. The improvement of the bodily and mental condition, after the habit of self-abuse was prevented, was very marked.

Mania; recovery under emmenagogue treatment.—A. C., No. 1641.—A passionate excitable girl, aged eighteen; her father, brother, father's brother, and mother's brother, all insane. Two months before admission the catamenia became irregular, and mania supervened. She was exceedingly violent, running round and round rooms and airing courts; talking all day and night to persons whom she fancied she saw around her. This active state subsided in about two months from admission; she became excessively passionate and indolent, would lie on a bench or couch all day long, and, if disturbed, was violent and abusive. Under treatment she improved, was moved into a quiet ward, and employed herself a little. The catamenia remained suppressed until the application of galvanism, seven months after admission; this brought on the catamenia, and complete mental restoration followed within a few weeks. The treatment was—warm baths, aperients, muriate of morphia, gr. ½ h. s. After a month—Pil. Ferri. c. gr. xv, ter die, used for three months without benefit; afterwards leeches to the groin without effect. After a month the electro-galvanic current was passed across the pelvis for half an hour daily; it succeeded in two months. It was used for a few days before the monthly period for two months longer. She was discharged recovered eight months after admission.

Mania; recovery on the removal of profuse Leucorrhœa.—M. A., No. 1707.—The wife of a butler, aged thirty-seven. A year ago was deserted by her husband; since then she has endured great distress, and is said to have been intemperate and dissolute. Insane six months. *Mental state.*—Abusive and violent, breaks glass, very irritable; fancies every one is her enemy; restless, with feeble power of attention. *Bodily condition.*—Pale and emaciated, with very anxious expression; pulse natural, tongue pale, sleep bad, appetite uncertain, functions of uterus irregular, profuse leucorrhœa. *Treatment.*—After some days, Decoct. Cort. Querci ℥ij, Aluminis ℥iv. Ft. Injectio per vaginam nocte maneque. This succeeded in stopping the leucorrhœa. After three weeks—Quinine gr. ii, Acid. Sulph.

dil. ℥xv, ter die. Under this treatment she recovered, and was discharged in good health, three months after admission.

Mania inclining to Dementia from the irritation of a foreign body in the Vagina.—J. W., No. 560.—A laundress, aged sixty-one; stated to have been insane four months. Has made many attempts to destroy herself. Is wild and restless, pulling off her clothes, tearing her hair; says she is the Queen of Heaven. Is very violent, swearing, and incoherent. Pulse small and quick, head and skin perspiring and not hot; desire for food voracious; sleep broken. Antim. P. Tart. gr. ½ was given three times a day for four days. The patient rapidly improved, became tranquil and industrious. A month after admission she had a febrile attack, with severe lumbar pain. This recurred five times, producing great languor and debility, and causing her keep her bed. Various means of treatment—warm baths, alteratives and aperients, blisters, &c., &c.—were adopted without effect. The patient became very weak, with flying pains all over the body; and at length she could not for a long time leave her bed, and her life seemed in imminent danger. Five months from her admission, a disagreeable purulent smell was observed about her; and on seeking for the cause, an offensive vaginal discharge was observed, which she had doubtless taken measures to conceal. We desired the assistant medical officer to examine the vagina with the speculum. This he did, in opposition to the strenuous efforts of the patient, and reported to us the existence of extensive malignant disease. The cervix and part of the body of the uterus were found occupied by a large, ragged, foul ulceration; the parts around of a greenish-black colour; and the whole covered with a most offensive discharge. Having ordered the use of chlorinated injections, after some days we used the speculum ourselves; the patient again resisting most vigorously, and requiring to be held in position by nurses. We found a large ragged ulceration of the cervix uteri and the upper end of the vagina, lying across which a great piece of wood appeared. This we easily removed with the finger, and found to consist of a child's toy *wooden trumpet.* When the first examination had taken place, this thing had been concealed by granulation and discharge. The patient, of course, strenuously denied having introduced it; and it certainly is singular that, at her age, she should have resorted to such a method of self-abuse. After the removal of the irritating cause the vaginal discharges ceased, and the patient began to improve; but her bodily health had been so broken down that it took several months to restore it. She was discharged recovered twelve months after admission.

Mania with resemblance to Delirium Tremens.—A farmer, single, aged thirty-three. Not hereditary. A professed wrestler. For the last two months has been attending wrestling matches in various parts of the country, maintaining himself upon the prize-money which he obtained. Came to his brother's from a wrestling match in Cornwall; was very excited and apprehensive of danger; was tied down to a bedstead, which he

tore up and used as a ram to burst open the door and force out the window frame. *Mental state.*—Greatly agitated; says that men, spirits, and demons are pursuing him, and attempting to kill and poison him; that demons in the shape of little terrier dogs are eating his flesh; he tries to tear them off, and with his powerful grasp he inflicts bruises upon himself in so doing; he fancies his medicine is poison, and resists taking it. *Bodily condition.*—Head cool and free from pain; skin warm and clammy; tongue broad, furred; bowels open; evacuations dark and copious; urine normal; pulse 92, weak; sleep broken; no muscular tremors. *Treatment.*—Calomel gr. vj, stat.; Haust. Aloës cras mane; Æther ʒj, Tr. Opii, ɱxxv, ter die. After two days, Tr. Opii ʒj e cyatho cerevisiæ ter die. After ten days the patient was free from delusion, and fast gaining a natural healthy state. Was discharged recovered one month from admission.

Acute Melancholia from moral causes; no improvement under treatment.—M. P., No. 1691.—A farmer's daughter, aged forty-four. Not hereditary. *History.*—Had for several years been living in habits of adultery with a married man. The man's wife was in ill health, and when she died he promised to marry M. P. When the wife did die, the sister of M. P., endeavoured to obtain this man for her husband, causing much jealousy, and the man eventually refused to marry either. Soon afterwards the patient became depressed, and attempted to hang herself. When admitted was greatly depressed; says her body and soul are lost, that she shall be burned alive, that she sees hell flames, that she cannot be cured, and wishes she was dead; constantly moans and shouts aloud, and strikes other patients. *Physical symptoms.*—Head hot, pulse quick and feeble, sleep disturbed, catamenia scanty. *Treatment.*—Tr. Opii ɱxxx, Æther. Sulph. ɱxx, horis 3tiis, continued three months with some improvement. Warm baths for thirty minutes at ninety degrees, with arrosoir of cold water on shaven scalp; this treatment procured much better sleep. After three months, the health of body having improved, but the head being hot and the eyes suffused, leeches were occasionally applied to the temples. Want of sleep, with great distress of mind, continuing, five grains of crude opium were given three times a day, with good effect for the time, but it begun to cause sickness, and the head again being hot it was discontinued. The baths were recommenced, and she was cupped to six ounces from the nape, four times, at intervals of a week. This caused relief, and the patient has slept better and been more tranquil. She has a new delusion that her brain is too large, and that it is bursting through the skull; no loss of power of attention, or memory. Still under treatment; prognosis unfavorable.

Quiet Melancholia cured by Opium with Æther.—W. F., No. 1427.—Married; a fishmonger, aged fifty. Not hereditary. Insane two months before admission. Cause, a dispute with the Town Commissioners of Improvement respecting some thatched houses which she refused to slate, and which, as they were considered dangerous, the Commissioners seized and

slated. *Mental state.*—Refused to answer questions; constantly said she must die—she had no money, and must starve. Frequently wept; walked about, wringing her hands, day and night; could not be kept in bed. Before admission had attempted suicide several times, and thrusting articles down her throat. *Bodily condition.*—Head hot, extremities cold; tongue covered with a brown fur, bowels constipated; refused food; pulse quick and feeble. *Treatment.*—Calomel gr. v, Pulv, Jalapæ gr. xv, stat. Four days after admission—Tr. Opii ℥xl, Æther. Sulph. ℥xxx, ter die. Under the influence of this medicine she improved rapidly sleep and appetite improved, and the constipation ceased. In seven days her delusions disappeared, and she became cheerful and active. Was discharged cured, one month from admission.

Melancholia with Hallucination; recovery without medicinal treatment.—M. N., No. 1729.—An artisan's wife, aged forty-eight; of steady industrious habits. Not hereditary. Second attack. Supposed cause, the excessive drinking of strong tea. *Mental state.*—All things appear of a red colour. She sees most frightful animals and spirits, of a blood-red colour, which she knows are not real, but which make her wretched, and prevent sleep. Before admission, she attempted suicide by hanging. *Bodily condition.*—Head hottish, extremities cold; generally relaxed, ill-fed and nervous. No *medicinal treatment* was adopted. Under the influence of a regular mode of living, with cheerful occupations, she recovered in three months from admission.

Melancholia without Delusion, from distress; recovery from good food.—W. P., No. 1684.—An agricultural labourer. Not hereditary. A year before admission had erysipelas, which was followed by ill health and incapacity to work. He had to support himself, a wife, and three children upon four shillings and sixpence a week derived from a sick club. He said he had been half starved, and that this alone was the cause of his mental depression, of which he was fully conscious. *Mental state.*—Extreme apathy; he would sit in one position all day long, took no notice of anything passing around him; had no delusion, but great depression of spirits. He was very feeble and emaciated, and had cough from chronic pleurisy. For this, Hydrarg. Bichl. gr. 1-10th ter die was ordered, with benefit; and under the influence of good food he gradually recovered, and was discharged four months after admission.

Melancholia from chagrin; recovery without medicinal treatment.—V. W., No. 1687.—A gentleman's bailiff, aged fifty-five; the father died insane. This patient had borne through life an excellent character, and had been ostentatiously attentive to his public religious duties. Twelve months ago he married a young woman, and six months afterwards was blessed with offspring. This premature event brought upon him the jeers of those who saw in it a contradiction of his professions of sanctity. He gradually

became depressed, said he had ruined his master, whose property he had wasted; that his sins were many, and could never be forgiven; that he must die, and go to hell, and the sooner the better. Had a heavy, dejected appearance, and dulness of attention. Head and skin hot and moist; sleep moderately good. This patient had no medicinal treatment. He was employed at first in the garden, and subsequently in shooting excursions, in which he was of much use, being an excellent sportsman. He slowly and gradually improved, and was discharged six months after admission, and has remained well since.

Mania from remorse; recovery without medicinal treatment.—N. N., No. 1660. — Had been for many years the trusted attendant upon an insane lady. Upon the death of this person her friends settled upon N. N. a handsome annuity, for her faithful services. She gradually became melancholic, as she said from remorse at not having done her duty to her late charge, whom she had permitted to be ill used and placed in severe mechanical restraint by the medical man in whose house she resided as a single patient. She said that her soul was lost for ever, that there was no hope for her, that her sins were mountains high; was most anxious to resign her annuity. She was dull and listless and emaciated; but her bodily functions were normal. No medicinal treatment was adopted; she was made to occupy herself. For six months she did not improve; she then improved rapidly, and was discharged recovered nine months from admission.

Mania from grief; recovery under opiate treatment.—M. D., No. 1672.—A master chimney-sweep, of industrious and steady habits, gaining two or three pounds a week by his trade. His wife ran away with another man twelve months before his admission. After this he became intemperate, and changed in character. Had been maniacal six weeks before admission. Was very violent, restless, and noisy; said he saw Christ bodily, that he had a mission to convert the world; used blasphemous and disgusting language. Head hot, pulse quick and weak, body emaciated; no sleep. *Treatment*—Warm bath, with cold to head, thirty minutes; Morph. Mur. gr. ½ ter die; this drug was continued six months; attempts were made to diminish the quantity, but with bad effects. After three months he gained strength and flesh, the head became more heated, the conduct quarrelsome and violent. A pill, containing half a minim of croton oil, ordered every second day. This produced hypercatharsis, followed by great improvement in the bodily state; the appetite also improved. This continued under the occasional use of Ext. Aloës gr. x. The patient was discharged recovered six months after admission.

Mania from grief; opiate treatment.—A. W., No. 1658.—A married woman, aged fifty-seven, of quiet, domestic habits, and naturally cheerful temper. Became insane immediately after the death of a son and the

seduction of a daughter, both of which events occurred about the same time. Said she was under the terrible power of witches, who whispered into her ear that her family were to be burned. She believed all her family to be dead, even though she saw them about her. Said their letters were forged. Obscene in her conduct; said the female patients were men. She was highly suicidal, and attempted to injure herself by throwing herself with violence on the ground, causing bruises on the head and face. Head hot, extremities cold, pulse natural, tongue red and glazed, sleep lost. *Treatment*—Castor oil; blue pill and aloes; Morph. Mur. gr. ½, every night, continued for three months without improvement. At this time she became very restless, the conduct violent and obscene, the delusions fixed. Ordered—croton oil to be rubbed on the shaven scalp, and a grain of muriate of morphia to be taken three times a day. This was followed by the happiest results; in the course of a few weeks she gave up her delusions, but remained depressed for some time. Was discharged cured six months after admission.

Dementia following brain fever; recovery under tonics and moral treatment.—E. T., No. 1654—A mantua-maker, aged twenty-two. One uncle committed suicide, another was insane. Four months before admission had brain-fever: afterwards her mind was observed to be quite weak; she was foolish, irritable and frequently wept and laughed without cause. She was exceedingly mischievous, destroying windows and clothing without apparent motive. She was quite inattentive to the calls of nature, and had consequently to be treated in the idiot ward. No power of attention or memory. Appearance quite idiotic; the saliva running from her mouth. Body anæmic and emaciated, temperature low; appetite fair; sleep good; catamenia suppressed. *Treatment*—Pil. Ferri co. gr. x, ter die; Oleum Jecoris Aselli ℥ss,, ter die. Great physical improvement; mental condition remaining much the same. After a month, croton oil rubbed on the shaven scalp, followed by marked improvement in the mental state. This was followed up by diligent moral treatment. One of the nurses employed her, danced and sang with her, and made her a constant companion. Under this treatment she gradually recovered the full power of her mind, and was discharged recovered nine months after admission.

Acute Dementia from Suppressio Mensium.—H. M., No. 1467.—A single woman, aged nineteen. Twelve months before admission she caught a bad cold during the catamenial flow, which was arrested. In her present state for five weeks; can scarcely be made to speak or move; when urged she says—"I shan't! d—n you, get out!" Resists medicine violently; requires to be fed; is exceedingly filthy, eating her own fæces so as to produce frequent sickness; pulse natural; bowels much confined; tongue white; sleeps heavily. *Treatment.*—A drop of croton oil in half a drachm of olive oil placed in the mouth every other day. After the resistance of medicine was overcome—Decoct. Aloës c. ℥j. o. m.; six leeches to the groins, with warm hip bath, once a month. After two months, some improvement;

begins to feed herself. After five months, begins to work a little in the ward, and to discontinue her filthy propensities. After seven months, the catamenia reappeared, and a marked change immediately followed; she became talkative, lively and high-spirited, according to the bent of her disposition; she was, however, docile and industrious. From our fearing a relapse, she was not discharged cured until three months later.

Acute Mania, becoming chronic under treatment.—A. P., No. 1222.—A cook, well educated; four years ago had a blow on the head, from a fall. For two years had betrayed oddity of manner, and her memory had failed; still she "kept company" with a footman living in service in the same house with her. Her lover destroyed himself; after which, the rector of the parish talked to her religiously, and prevailed upon her to receive the sacrament. Since that time she has believed herself in hell, and that Mr. A., the vicar, is the only person that can get her out; she escaped from her friends, got into his house, and broke his conservatory windows. Brought to the asylum, she was violent to the attendants and patients, destructive of clothing and glass; libidinous in expression and conversation, and given to masturbation; the head hot; otherwise strong, and in good health; functions of uterus regular. *Treatment.*—Daily shower-baths, blisters over the ovaries, occupation in the laundry; under this the delusions and symptoms of nymphomania subsided, and the patient became tranquil and manageable; the memory remains impaired, the temper irritable, and the conduct prone to violence, under any excitement. Probably some mischief has resulted from the physical cause, which remains after the maniacal excitement, which followed the moral cause, has disappeared.

SOME CASES ILLUSTRATING CAUSATION AND PATHOLOGY.

Monomania, with Religious Exaltation, of long standing; death from Perforating Ulcer of the Intestines—A. V., No. 579.—A farmer's daughter, unmarried, aged fifty-three. Has been considered insane many years, and previously confined in four asylums. On Sunday, went into the market-place of N——, and attempted to preach, thus creating a disturbance. A week before her admission she smashed the windows of a tradesman who had once been concerned in placing her in an asylum. After her admission the mental state was that of religious enthusiasm, with a haughty, dictatorial temper; she frequently preached—or, as she said, lectured, to the inmates, in a loud, pertinacious manner. She insisted vehemently on her perfect sanity, and vowed legal vengeance on all concerned in her detention; obstinately refused employment, but, with the exception of the loud preaching, was quiet and obedient to rules. Her intellectual powers, displayed in language and argument, were considerable; she had no delusion. *Bodily condition.*—Sleeps sound, pulse good, head and skin cool; all the functions regular; catamenia naturally suppressed. She remained in this

state two years and a half, including a period of about nine months, during which she resided with her brother, a farmer living in the neighbourhood. She subsequently looked ill, and was ordered to bed; but she refused to acknowledge that she had anything the matter with her. She had a slight swelling of the wrists, and a trifling cough, and was thought to have a rheumatic cold. After three days, the expression suddenly became pinched and anxious; the pulse small, 120; the tongue white, and the abdomen tender to touch. Turpentine fomentations to the abdomen, and grain doses of calomel every four hours, were ordered; after twelve hours she became rather suddenly weaker, and died. *Post-mortem examination.*—Circumference of cranium 1ft. 8½in.; weight of brain 3lbs. ½oz. av.; capacity of brain for water 50½oz.; breadth of grey matter ·08 of an inch; sp. grav. of cerebrum 1·041, of cerebellum 1·044; the dura mater was adherent to the cranium; the choroid plexus contained many cysts; the substance of the brain was natural in colour and consistence; there was rather more subarachnoid fluid than was natural; the arteries at the base of the brain were slightly atheromatous. Death had been caused by a perforating ulcer of the small intestines, near their lower end; the other organs of the body were healthy.

The case affords an example of the slight deviations from the normal state which take place in cases of Emotional Monomania, or Moral Insanity, which arise from exaggeration of the natural disposition. This patient was only some degrees removed from those offensive preaching women one occasionally meets with in society. Probably marriage and the cares of a family would have saved her from an asylum. What, in this country, can a single woman do, with an energetic brain weighing more than three pounds, but get into some trouble or other?

Acute Nymphomania, with suicidal Impulse.—J. M., aged thirty.—A dressmaker. Three years before, had an attack of Mania from which she recovered, and had been well ever since. She was a Roman Catholic pervert from the Protestant religion, and the causes of her first attack had to do with her change of faith. For her second attack no cause could be assigned. Without any previous symptoms of Insanity, she went into the parish church of A—— during divine service, threw herself prostrate upon the pavement, and made a scene. On being removed, she was found to be "raving mad." A strait-waistcoat was placed under her, to prevent self-destruction; but, after this, she bit off the end of her tongue, and attempted to bite off her lower lip, but only succeeded in lacerating it fearfully. She dashed herself against a wall, and bruised herself so, that, when admitted into the asylum on the following Wednesday, her disfigured face scarcely appeared human. She was bruised from head to foot, and her right ankle was abraded from ligatures. She was sensible and did not appear to be suffering from any delusion; but she made repeated efforts to beat her head against a wall, and said she must kill herself. She refused food. The head was very hot. The catamenia were flowing on her admission. She was ordered a warm bath for an hour, with cold arrosoir

on the shaven scalp. She tried to drown herself in the bath, by keeping her head under water. The bath had an excellent effect, and was followed by sleep. It was followed up by a drachm of black drop, night and morning, and by a dozen leeches to the temples, which were repeated three times. She was never left, as she seized every opportunity to suffocate or strangle herself. In the course of five or six days, the symptoms abated greatly, and in nine days from her admission her mental health appeared to be perfectly restored. Her features were still greatly disfigured, but she occupied herself with needlework, spoke reasonable and gratefully, and was in her perfect right mind. Five weeks after her admission, and at the period when the catamenia again appeared, she suffered a sudden relapse; she made a violent and indecent attack upon a woman whom she believed to be a man. Her head became hot, her face flushed; her eyelids drooped —the eye being turned upwards; the carotids pulsated strongly, although the general pulse was weak. The same remedies which afforded relief before were tried in vain, and for five days she attempted to injure herself in every possible way, by thrusting her hand down her throat, by beating her head again the wall or the floor, and by attempting to drown herself in the bath. Several nurses were with her night and day, and upon them she made constant attacks of an indecent nature. She moaned and exclaimed, "Oh my God! Oh, blessed Jesus! Oh save me!" and evidently suffered great mental anguish. The large doses of opium which were administered had not the slightest soporific effect, and during the whole of the attack she never lost consciousness in sleep. Within half an hour of her death she was conscious of the visit of the Catholic priest, and appeared to understand the last sacrament which he administered. But so long as she was able to lift her hand she seemed to be occupied with a firm purpose of self-destruction. Gradually the breathing became slower, and the pulse more feeble; and, at the end of the fifth day of the attack, she died from asthenia.

Post-mortem.—Complexion highly sanguine; body well nourished, and more hirsute than is usual among women. The scalp bloodless. The calvarium very thick, hard and heavy; being sawn off in the usual manner its weight was 19½oz. Specific gravity:—cerebrum, grey matter 1·038, white matter 1·040, cerebellum 1·042. The dura mater was somewhat adherent. The arachnoid was healthy, but there was a slight quantity of sub-arachnoid fluid. The pia mater was generally congested, the congestion being greatest over the anterior lobes. The grey matter of the convolutions was paler than usual, but the white matter of the brain had the pink appearance of hyperæmia. In the right middle cerebral fossa the dura mater was covered with a thick straw-coloured adventitious membrane. Over the whole of the base of the skull, the shining surface of the dura mater was of a yellowish colour, and the membrane was easily separable from the bone. The hepatic system was congested. The catamenia were flowing. The hymen was perfect. The uterus and its ligaments, and the ovaries, were greatly congested. The right ovary contained a cyst about the size of a small nut, having inside a yellowish fluid. The left contained

a cavity about the size of a large pea—false corpora lutea—lined with a yellowish cartilaginous structure containing a clot of blood. The other organs were healthy.

It is probable that the pathological appearances found at the base of the brain were the result of the previous attack of Mania, which, however, had left no apparent effect in the condition of the patient beyond the very serious one of a tendency to relapse. This poor young woman bore an exemplary moral character, directly at variance with that which might physiologically have been expected from the indications afforded by her conformation and temperament. Vehement mental perturbation appears to have resulted from the struggle between mental purity and the physiological impulses of sex. The acute cerebral hyperæmia was sympathetic with the state of the ovaries, and affords an illustration that the conditions of the brain in sympathetic disturbance are actual and tangible morbid conditions, and not the mere vibrations of an irritation. The pale colour of the grey matter of the convolutions, in contrast with the hyperæmic condition of the white substance, was remarkable. Probably the state of the grey matter did not exist long before death, and was an effect partly of the gradually failing powers of life—partly of the leeches and refrigeratory measures applied to the head. The grey substance of the convolutions appears to pass more readily into and out of a state of hyperæmia than the white substance.

Chronic Mania; death from suicide.—W. R., No. 883.—A shoemaker, aged sixty-one. Seven years before was noticed to be insane, parading the streets with a knife tied on a pole, and frightening people. Had continued strange ever since, seldom speaking to any one, or answering when spoken to. Requiring parochial relief, he was compelled to take it in the Union House. He became morose and excitable; refused to work in the house, and was twice committed to Bridewell on that account; but for the last two years, when he had refused to work, he had been treated in a summary manner—put under confinement in the house, and kept on bread and water. A week before his admission into the asylum, he obtained a knife and cut his throat; he lost much blood. The wound was sewn up by the Union surgeon, but he twice tore it open, and said he would "tear the eyes of the attendant out, if he did not bring a razor for him to complete the job." *On admission*, extremely emaciated; the cellular tissue emphysematous all over the body, even down to the wrists; the scrotum quite inflated with air. Respiration hurried, but the stethoscope cannot be used on account of the crackling of the emphysema over the chest; pulse 120, very feeble; an open wound into the larynx between the cricoid and thyroid cartilages, through which the thumb may be passed; the air respired passes partly through the wound. He lay quietly, without being able to speak; did not interfere with the dressings; took wine eagerly. Wine, brandy and egg, beef-tea, &c., were administered frequently; but he gradually sank, and died, after being in the asylum two clear days. *Post-mortem.*—Cranium thick;

dura mater firmly adherent; Pacchionian bodies large, greatly indenting cranium; venous congestion of pia mater; subarachnoid effusion in small quantity. Substance of brain soft and watery: weight 2 lb. 11¾ oz. Sp. gr. cerebrum 1·039; cerebellum 1·045. Grey matter of convolutions of a muddy-brown colour, the external layer darker than the internal; the tubular neurine also of a muddy colour, with numerous blood points. Heart 5½ oz. Intestines dark in colour, inflated, covered with old false membrane. Cysts in surface of kidneys. The wound in the throat was not interfered with.

Mania with changing delusions; death from Chronic Gastritis.—J. B. W., a letter-carrier, aged forty-eight. Ten days before admission he requested his brother to accompany him in his rounds, as people were waylaying him with the intention of destroying him. Had since been very restless, excited and ungovernable; had suffered much grief from the immoral conduct and death of a daughter. No relatives insane. On admission, great anxiety and restlessness; heard noises of people coming to injure him; head over-warm; tongue furred; pulse quick and weak; sleep fair; muscular movements active and normal. Aperients. Improved greatly during the first month; acknowledged his delusions to be such, and said he had been subject to morbid fancies of plots and an impending evil for two years. After a game at cricket, he began to talk of his old delusions in a nervous excited manner; hot head, flushed face and quick pulse. Antim. P. Tart. gr., ⅓, ex aquâ—ter die. This medicine not well borne, and omitted after four days. The delusions of fear gradually changed to others of pride; said he had £365,000 a-year, was a knight of the realm, constantly bowing and kneeling to Her Majesty. Bal. Pluv. o. m. C.C. ad ℥vj nuchæ. After a week, Baln. cal. c. affus. frigid. capiti pr. horæ dim. o. n. Afterwards head cool, free from pain; pulse quick, of fair tone; quiet at night, but wakeful. Warm baths omitted after a week; morning shower-baths ordered, and omitted after a fortnight. After two months, acquired a new leading delusion, that a certain mesmerising surgeon had gained complete power over his body and soul, and that he was going to hell gloomy and anxious, losing flesh, appetite indifferent. Sp. Ammon. Co. Sp., Ætheris C., ana ℥ss. Inf. Gent. c. ℥j, ter die. After two months wished to be killed; but would not attempt his own life, if Dr. B. would cut off his head when the Queen sent her permission; often refused food saying it was poisoned, and needed to be fed; still lost flesh and became emaciated; tongue thin, with a red tip; alvine evacuations formed, of a pale clay colour, scanty; complexion clear; pulse quick and feeble; sleep fair; no abdominal pain. Ol. Jecoris Aselli; Hydr. c. Creta, gr. v, o. n.; Baln. Cal. 96°, alternis noctibus. Eggs and new milk diet. Strong ale and wine. For two months longer he gradually declined in health, the delusions remaining the same. Took nourishment better, but enjoyed beer and wine most. Ten months from admission became gradually weaker, lost his voice, did not recognise his relatives, became drowsy, and died without a struggle. *Post-mortem.*—Body greatly emaciated; calvarium thick;

dura mater not adherent; arachnoid transparent, containing ʒiij of serum in its cavity. Vessels of the pia mater on right side much congested and enlarged. Subarachnoid effusion over the whole of the right hemisphere and the anterior convolutions of the left. Lateral ventricles normal. The colour of the grey matter of the convolutions not uniform, the external third of its thickness being darker than the internal. Both the vesicular and tubular neurine softer than usual; cerebellum and medulla normal; pituitary body smaller than usual. Weight of brain 2 lb. 2 oz. Sp. gr. 1·045. Lungs healthy. Heart 7 oz., firmly contracted; aortic valves thickened; aorta contracted and atheromatous. Œsophagus presenting a jelly-like appearance of the mucous coat. Stomach: the mucous membrane soft and pultaceous; decided marks of inflammatory action in cul-de-sac and along large curvature; a patch of inflammation the size of a crown-piece near the cardiac orifice. Transverse arch of colon lying in the pelvis; small intestines contracted, and lying in the pelvis; some enlargement of the mesenteric glands; spleen contracted. Other organs healthy.

Mania from dissipation and intemperance.—S. A. S., No. 1223.—A public prostitute for twenty-five years; during that time has had seven illegitimate children; three years since was said to have been married, but this is doubtful. When the person calling himself her husband visited her in the asylum, she cried—"Oh, the brute! the devil! why did you allow him to come here? He is not my husband, and never was!" Had been maniacal three months; was extremely filthy in her habits, daubing her person with excrement, &c.; used profane language, and would have been violent if her strength had permitted. Before being brought to the asylum, she was permitted to lie in bed until her legs had become flexed in a fixed position, the knees on the stomach and the heels on the buttocks; she was extremely emaciated, and altogether an abject specimen of human wretchedness. Wine and quinine, and her favourite liquor gin, were given her, with good soups, &c.; but she gradually sank, and died six weeks after admission. *Post-mortem Examination.*—Circumference of cranium, 1 ft. 8 in.; weight of brain, 2 lb. 7 oz.; capacity of cranial cavity, 41½ fl. oz.; displacement of water by brain 37 fl. oz.; cerebral atrophy 4½ fl. oz.; calvarium very thick and heavy, a quantity of sanguineo-serous fluid escaped on removing it; dura mater congested; arachnoid opaque and thick; the vessels of the pia mater congested, and containing numerous bubbles of air; grey matter of convolutions ·06 of an inch in thickness, its different layers obvious; sp. grav. of grey matter of cerebrum 1·035, of white matter 1·041, of cerebellum 1·041; substance of brain of normal appearance; an effusion of coagulated blood into the middle cerebral fossæ, to greatest extent on left side. *Lungs* healthy, the left pleural cavity containing an abundant sanguineous effusion, forming into laminæ attached to the pleura pulmonalis and costalis. *Heart* small, flabby, 4¾ oz. in weight.

General Paralysis following Apoplexy.—J. H., No. 668.—A builder, aged forty, always industrious and well conducted; the father was insane.

About three months before his admission into the asylum, a woman to whom he was engaged jilted him, and married another man. For some days after this occurrence he was taciturn and dejected; he then showed symptoms of excitement in the management of his business. He then decked himself with garlands of flowers, and perambulated the streets in this masquerade guise. He visited the gardens of his neighbours, and helped himself to flowers and fruit. In the asylum he alternated between periods of depression and excitement; but eventually he recovered perfectly, and was discharged in nine months from his admission. He remained well for four years, when he had a convulsive attack, and became palsied. The medical treatment to which he was subjected having failed to restore him to health, his friends called in the aid of witchcraft, by invoking the aid of the Wise Man of Plymouth. We have been informed by a person who assisted in the ceremonies, that this man first employed a charm and incantations, which consisted in burning the viscera of a sheep in a fire made in the centre of the floor of one of the rooms in the patient's house, the fuel consisting of an ashen faggot; while the viscera were burning, incantations and passages from Holy Scripture were read. This charm having failed, in a week's time another was tried, consisting of burning tapers carried round the house at midnight, with the accompaniment of incantations said and sung. This charm also having failed, the patient was brought to the Devon Asylum, when he was found to be far advanced in General Paralysis. The symptoms, however, differed, in some respects, from the typical form of this disease; he had less tremor, and more palsy, than is usual. When asked to show his tongue, he attempted to drag it forward with his finger and thumb, so completely had he lost the power of protruding it. He had ptosis of the right eyelid. He had convulsive attacks frequently in the evening; at night he was restless and noisy, groaning and talking. He died four months after his re-admission. *Post-mortem.*—The calvarium was normal; the dura mater was not adherent to it, but at the vertex the dura mater and other membranes were adherent to each other, and to the substance of the convolutions, by means of fibro-albuminous effusion. The arachnoid was opaque and thick, the pia mater was infiltrated with serum; the substance of the brain was atrophied to the extent of 10 oz., that being the difference between the capacity of the cranium and the displacement of water by the brain; the arteries at the base were healthy; the dura mater of the falx and the middle fossæ of the brain was coated with a thin sanguineous effusion; there was also a layer of effused blood in the left middle fossa of the cranium. The layers of the vesicular neurine were very distinguishable; the tubular neurine was not obviously altered. The lateral ventricles were enlarged, and their lining membrane was covered with a granulated deposit. Sp. gr. vesicular neurine 1·033, tubular ditto, 1·037.

This case is interesting from the rare example it presents of general paralysis following Mania. It may, however, be doubted whether the general paralysis was a pure example of the affection. The sanguineous effusions were probably of some standing, yet they offered no indications

of a tendency to undergo the changes common to effused blood; perhaps they ought rather to be considered in the light of albuminous exudates, coloured with blood pigment: Virchow has taken this view of similar appearances.

Homicidal Monomania; death from Pneumonia.—J. K., No. 771.—An agricultural labour of steady and industrious habits; had thought, talked and read much on religious subjects; twelve months previous to admission he became restless, gloomy and reserved, irregular at his labours, and distressed about his soul. He had shown no disposition to suicide or violence, but had the constant feeling that he must destroy some one. On admission he was twenty-six years of age, a fine, powerful man, six feet high, with more than the average intelligence of his class. He was aware that his mind was affected, and said that his head was filled with vain and evil thoughts, and that the more he strove to get near the Scriptures the further he was from them; he felt a strong desire to commit murder, which he struggled against and thought a temptation of the devil. His head was hot, and he had some pain in it, but was otherwise in good health. In the course of a month he improved greatly, but relapsed after a visit from his friends; he however again improved, lost all his bad thoughts, and for some weeks laboured at spade-husbandry. Whilst thus engaged, he one day came to the writer and begged to be taken from the garden and placed in a safe ward, as he had experienced the strongest desire to kill some of the patients with his spade. His request was complied with, and from this time he never again lost the homicidal feeling. To avoid the murderous assault to which he felt himself impelled he often requested to be locked in his bedroom, and still more frequently tied his own hands together with a piece of packthread, which he could have snapped with the greatest facility, but which he said enabled him to resist the temptation; he was sad and morose, but never displayed the slightest violence. Six months after his admission he was attacked with pneumonia, first of one lung and then of the other. Partial softening took place, followed by hæmorrhage, of which he died. *Post-mortem.*—The calvarium was thick and dense, the dura mater strongly adherent; the visceral arachnoid was opaque and thickened over the vertex; over the anterior lobes it was in a state of general reddening from congestion. The pia mater, over the vertex, was infiltrated with serous fluid; over the anterior lobes it partook of the congestion of the arachnoid; over the right anterior lobe there was a patch of about an inch in extent, in which there was a rough opaque deposit of fibro-albumen in the pia mater and arachnoid. The Pacchionian bodies were very large. With the exception of partial atrophy of the convolutions of the vertex, the substance of the brain presented a normal appearance. The lower lobes of both lungs were in a state of grey softening from pneumonia.

Partial recovery after acute Mania; death from a convulsive attack.—B. B., No. 708.—A baker, aged twenty-seven, of very intemperate habits; had had a previous attack; before admission had been bled very largely.

Admitted with restless, mischevious Mania, with small pulse, haggard countenance and feeble powers. Under a stimulating treatment he recovered sufficiently to pursue his handicraft in the asylum. Four months after his admission he was attacked with the symptoms of pulmonary gangrene; the stethoscope, however, indicated that the disease was confined to a part of the middle of the left lung, and he entirely recovered from it, and resumed his occupation of baking. After the interval of a year, while apparently in good health, he fell from his seat at the supper table in convulsions, which continued for twelve hours, when he died. *Post-mortem.*—The calvarium was found thick and dense; the membrane and substance of the brain were adherent around the crista galli, which was largely developed; the arachnoid was generally thickened and opaque; the pia mater was greatly congested, adherent, and infiltrated with a considerable amount of serous fluid. Over the petrous portion of both temporal bones, the dura mater, arachnoid, pia mater and substance of the brain were firmly adherent. The colour of the grey matter of the brain was dark, but uniform; the medullary matter was minutely injected, and of a pinkish colour. The lateral ventricles each contained 3 oz. of serous fluid; their lining membrane was smooth and normal. In the upper part of the lower lobe of the left lung was an isolated spot of indurated tissue, carnified, about 1 in. by 2 in., containing an irregularly shaped concretion, the size of a pea. The thymus gland occupied a great part of the anterior mediastinum, and was 3 in. in length by 2 in. in breadth.

Acute Melancholia from fear.—W. M. D., aged thirty-two, of good general health and temperate habits. Having a tumour in the front part of the chest, he consulted a medical man respecting its nature, and having been told by the latter that the tumour was an aneurism of the aorta, and that sometime or other it would burst and cause instant death, he became greatly depressed, and in about a week he displayed a tendency to suicide. On being brought to the asylum he was very taciturn, and refused to answer questions. He occasionally ejaculated, "O God, save my soul; I am a lost sinner." His whole attention seemed to be concentrated upon his own state of religious feeling. He rarely moved, or spoke, or appeared to take notice of occurrences. He refused food, but was regularly fed with as much wine, beef-tea, arrowroot and other aliments as would have supported a healthy man; notwithstanding this, he rapidly lost flesh and strength, and died in three weeks after his admission. The tumour in his chest proved, on examination, to be a fibro-cartilaginous one; he was assured of its harmless nature immediately after his admission into the asylum, but the information afforded him no comfort. *Post-mortem.*—The skull was found to be very thin; in one place, on the parietal bone, it was as thin as paper. The dura mater adhered strongly to the calvarium, and was dark coloured from venous congestion; there was extreme congestion of the arachnoid and pia mater, giving a general strong red hue to the right anterior lobe. There were also several patches of ecchymosis in the pia mater, over the right middle lobe. Over the left hemisphere the mem-

branes were much less injected. Over the sulci the arachnoid presented a semi-opaque appearance. The pia mater adhered firmly to the substance of the brain. The whole substance of the brain was much injected. The ventricles and coats of the arteries of the brain were normal. No pathological appearances of importance existed in any other part of the body, except the remains of partial pleurisy in the lower lobe of the left lung. The partial congestion of the cerebral membranes observed in this case is a rare appearance.

No. 2.—NOTE ON CLASSIFICATION.

THE writer of the chapter on Classification in this volume desires to add a new nosological scheme, published in the 'Lancet' for November 15th by his collaborateur, Dr. Bucknill. In the chapter referred to, and at p. 318, we have variously classified mental disorders according to the several points of view from which they may be advantageously regarded—psychological, physiological, and somato-ætiological. A strictly speaking *pathological* one, that is to say, one founded upon post-mortem examination, is confessedly not yet possible. We may, however, endeavour to approach it by introducing a few wide embracing divisions, such as the "orders" enumerated below, which indicate the pathogenetic relations of morbid mental states, while under these are grouped the various ætiological forms of Insanity as "genera," these genera being differentiated by various "species" according to the pathological conditions of the brain and nerves, the blood and the nutrition. The readers of this Manual will be able to supplement the classifications already given for his guidance by extracting from this scheme so much of it as approaches more nearly to the actual pathology of Insanity. This in no degree need prevent him using the psycho- and ætiological classifications employed in this work.

"Although this subject has been treated with great learning and judgment by Dr. Daniel Hack Tuke in the Manual of Psychological Medicine, yet, considering the different kinds, forms, or species, of Insanity, I have failed to find all the assistance which I hoped for from some one or other of the existing systems of classification, especially in regard to treatment. Several of these systems are highly instructive on certain points—either, for instance, as to the psychical varieties, or the physical forms, or the pathological conditions, or, lastly, the natural groups, a small number of which undoubtedly do exist. Still I have not been able to find any one system which embraces all or nearly all the considerations which must be regarded in treatment. In this dilemma I was first tempted to state objections to the work which others have done, and especially to criticise the system of natural groups which has been most elaborated by my lamented friend the late Dr. Skae. But on reconsideration I have thought that, instead of finding fault with work which, however imperfect, is of undoubted value

from one point of view, it would be more useful, if not more generous, to endeavour to construct a system of my own, which might more fully answer the purpose for which we needed it—namely, as a nosological scaffolding of form for the guidance of treatment.

"My objections to the ætiological system of classification I have stated at length in a review of Morel's classifications;* and they apply in the main to Skae's similar but more elaborate one, which has been designated by Dr. Clouston, its able expositor, as a system founded upon the principle of '*The exclusion of everything mental or psychical connected with Insanity.*'†

"Without quoting these objections, I have the authority of the greatest intellect which has adorned our speciality—that of Griesinger—that "all classifications of Insanity must again, in the end, come back to the principal psychological forms of Mania, Melancholia, and Dementia, because they are actually founded in nature."‡ Moreover, the same high authority, in his introductory lecture, republished in the 'Journal of Mental Science; (No. 48, p. 531), says:—"This consideration of mental diseases, from a psychological point of view, is both necessary and serviceable to a firm and constant connection with the other aspect of the subject"—namely, its relation to practical medicine, and over and over again he points out that, in order to arrive at a practical diagnosis for the purpose of treatment, we must consider the psychical with the physical symptoms and the ætiology. "The real problem for solution is to determine not merely the character of the mental aberration, but, as far as possible, the nature of the lesion of the brain and of the nerves." In the classification of Insanity there are some forms, he says, which, in framing our divisions, we must refer to the psychical characters alone, for they are deficient in all other symptoms, but in other cases we are not bound to adopt this course alone. He appears fully to have recognised the principle, although he did not attempt to carry it into effect, that the classification of Insanity should be made to depend upon a combination of the psychical characters and of the pathological conditions.

"*The novelty of the scheme of classification now proposed consists in the combination of psychical characters of phenomena with pathogenetic relations and pathological conditions; the first forming the Classes, the second the Orders and Genera, and the third the Species.*

"Since the *ætiological* classifications of Van der Kolk, Morel, and Skae have been published, a most important step, in my opinion, has been taken in advance by the *pathological* classification of Dr. Batty Tuke;§ but even this thoughtful writer entirely omits all consideration of mental symptoms, and such an omission in a classification of mental diseases seems to me somewhat like the omission of flowers and foliage in a botanical system.

"In the formation of classes I have followed Griesinger's simple division into states of psychical depression, psychical exaltation, and psychical

* 'Journal of Mental Science,' No. 38, p. 286.

† Ibid., No. 87, p. 343.

‡ 'Die Pathologie und Therapie,' &c., p. 121.

§ 'Journal of Mental Science,' No. 74, p. 195.

debility; substituting, however, the conventional and now thoroughly established terms of Melancholia, Mania, or Dementia.

"I have reversed the usual order of Mania and Melancholia, because I believe that melancholia is the dominant psychical condition, and that Guislain was only wrong in being too exclusive in his theory that *phrenalgie* was the source of all *phrenesie*. Idiocy I have relegated to a sub-class Pinel included it in Dementia, and it was only separated therefrom by Esquirol. Pathologically, the distinction between primary and secondary Dementia is at least as great as between brain defect occurring before and after infancy. Cretinism is not congenital but toxic Dementia.

"The foundation of the *orders* and *genera* on pathogenetic relations is no doubt a natural one, and I think it can scarcely fail to be practically useful by impressing on the mind the kind of relation which the mental disease has with the bodily condition; for the treatment of the patient, both as to mind and body, must necessarily depend to a very great extent upon this relation.

"I do not presume to think that I have enumerated all the *genera* which, eventually, it may be found desirable to distinguish; and am well aware that the correctness of the position which I have assigned to some of the *genera* in the *orders* is quite open to discussion.

"The inclusion of Puerperal Insanity in the Climacteric order is open to grave objection. This order, however, is intended to include vesanias which arise from or in conditions which are not pathological; and, although a deviation from bodily health generally precedes puerperal Insanity, still the puerperal state can no more be considered necessarily a diseased state than that of puberty or old age. If there be a difficulty the identification of *species* will resolve it, seeing that Puerperal Insanity may be septicæmic, anæmic, or neuralgic.

"Of the *Species* there is little to say, except that they are the most important of all the divisions, and the most imperfect. Much has been left out which ought to have been admitted if knowledge had been sufficient. I trust, however, no condition has been admitted which ought to have been excluded.

"Such conditions as are vaguely expressed by the Brunonian terms 'sthenic' and 'asthenic' have been omitted. The conditions of all the secreting organs have been omitted, simply from lack of sufficient knowledge; and the excess or defect of irritability of the muscles, which form such marked features in mental disease, have been omitted for the same very unsatisfactory reason.

"On the other hand, the consideration of abnormal cerebral conditions which have not hitherto been sufficiently regarded as nosologies has been introduced. The ill-understood but undisputed state in which either the brain or the nerves, or both, wear away their physiological powers without interruption or repose, and its reverse, I have designated by the terms *hypertriptic* and *atriptic*, from τριβω, to rub.

"The *hypertrophic* and *atrophic* conditions of nutrition are well defined, if not yet well investigated, but the *caco-trophic* is a wide field of inquiry, in

which ground has hardly yet been broken. Sclerosis of the brain and of the spinal column is caco-trophic. How many varieties of it are there? If there is a paresic variety, is there not also a syphilitic one, and, maybe, some others? In this division into species I claim the aid of the microscopic and chemical pathologist, for upon it is founded the all-important question of ultimate diagnosis.

"The field for clinical research is the correlation of the classes, species, and genera; but, even while this correlation is in process of being worked out, any concrete case of mental disease which is assigned to its proper place in the division of this system will have attributed to it a succession of characteristics which will scarcely fail to aid in the more systematic knowledge of its nature and the more definite aim of its treatment.

"If it should be objected that this system is a complicated and artificial one, like the botanical system of Linnæus, the validity of the objection will be fully admitted, with the proviso that a complicated system is needful for complicated and ill-understood phenomena. With larger knowledge a more simple and more natural system will take its place.

Classes *of Psychical Phenomena.*

1. Melancholia.
2. Mania.
3. Dementia.

Sub-Classes *of Psychical Combinations and Transmutations.*

1. Melancholia, simple.
2. „ combined with Excitement.
3. „ with Stupor [*Dementia attonita*].
4. „ Mania and Dementia alternating [*Folie circulaire*].
5. Mania, simple.
6. „ with depressing Emotions.
7. „ intercurrent with Melancholia.
8. „ „ Dementia.
9. „ alternating with Sanity [*Recurrent Mania*].
10. Dementia, simple and primary.
11. „ consecutive on Mania or Melancholia.
12. „ congenital. Idiocy and Imbecility.

Orders *of Pathogenetic Relations.*

1. Simple Insanity. *Idio-encephalic.*
2. Allied Insanity.
3. Sequential Insanity.
4. Concurrent Insanity.
5. Egressing Insanity.
6. Metastatic Insanity.
7. Climacteric Insanity.

GENERA *of Pathogenetic Relations.*

Simple Insanity:

1. Insanity from Hereditary Predisposition.
2. „ Moral Influences.
3. „ Intellectual Overwork.
4. „ Direct Cerebral Injuries.
5. Insanity of General Paralysis [*encephalo-rachitis*].

Allied Insanity, influenced by other diseases, but independent:

1. Insanity with Cardiac Disease.
2. „ Pulmonary Disease, Emphysema, Phthisis, &c.
3. „ Enteric Disease.
4. „ Renal and Vesical Disease, &c. &c.

Sequential Insanity, caused by other disease which has subsided:

1. Insanity following Idiopathic and Exanthematous Fevers.
2. „ „ Inflammations, as Pneumonia.
3. „ „ Injuries to the Cerebro-Spinal Axis, Apoplexies, &c.

Concurrent Insanity, caused by other diseases or diseased conditions which continue to exist:

1. Insanity from Cachexias—Syphilitic, Chlorotic, Cretinic, &c.
2. Insanity from Epilepsy.
3. Insanity from Chorea.
4. „ Alcoholism.
5. „ Masturbation.
6. „ Starvation.

Egressing Insanity, growing out of the former disease, of which it is an exaggeration:

1. Insanity egressing from Hysteria.
2. „ „ Ecstasy.
3. „ „ Hypochondriasis.

Metastatic Insanity, from the shifting or ceasing of other disease or suppression of discharges:

1. Insanity from Rheumatism.
2. „ Erysipelas and Skin Diseases.
3. „ Suppression of Habitual Discharges, Hæmorrhoids, or Ulcers.
4. „ Suppression of the Catamenia.

Climacteric Insanity, caused by natural conditions of development and decline:

1. Insanity of the Pregnant and Puerperal State.
2. „ Pubescence.
3. „ Climacteric Decline.
4. „ Old Age.

SPECIES *of Pathological Conditions differentiating the Genera by Pathological Conditions of the Brain and Nerves, of the Blood and the Nutrition.*

Neurotic	1. Hyperæsthetic.	*Hæmic*	8. Hyperæmic.
	2. Anæsthetic.		9. Anæmic.
	3. Neuralgic.		10. Septicæmic.
	4. Sympathetic.		11. Uræmic.
	5. Apathetic.		12. Toxic.
	6. Hypertriptic.	*Trophic*	13. Hypertrophic.
	7. Atriptic.		14. Atrophic.
			15. Cacotrophic or Cachectic.

No. 3.—RECENT RETURNS OF NUMBERS OF INSANE.

SINCE the period of writing the section on Statistics (p. 116) more recent returns of the numbers of the insane have been issued by the Commissioners in Lunacy. It appears that in England and Wales there were on the 1st of January, 1873, 60,296 insane and idiotic persons in England and Wales, an increase it will be seen on referring to p. 116 of 1486 during the year. The admissions were 12,526, being 68 fewer than in the twelve months ending December, 1871.

In Scotland the total number of insane and idiotic on January 1st, 1873, were 7849, it being estimated, as in last year's report, that to this number must be added 2000 unreported cases. Compared with the figures given at p. 120 it will be seen that there has been only an increase of 120 during the year.

In Ireland on Jan. 1, 1873, the number of insane and idiotic is reported to be 18,177 (registered, 10,958; at large, 7219), the number of *registered* lunatics being 191 more than on January 1, 1872. For Great Britain and Ireland the total amount of Insanity and Idiocy, as estimated in the Blue Books on the 1st of January, 1873, is represented by 86,312, or, including the unreported cases in Scotland, 88,312. At the last census (1871) the population was: England and Wales, 22,712,266; Scotland, 3,360,018 Ireland, 5,402,759.

These figures only very slightly affect the proportion of the insane to the population already given.

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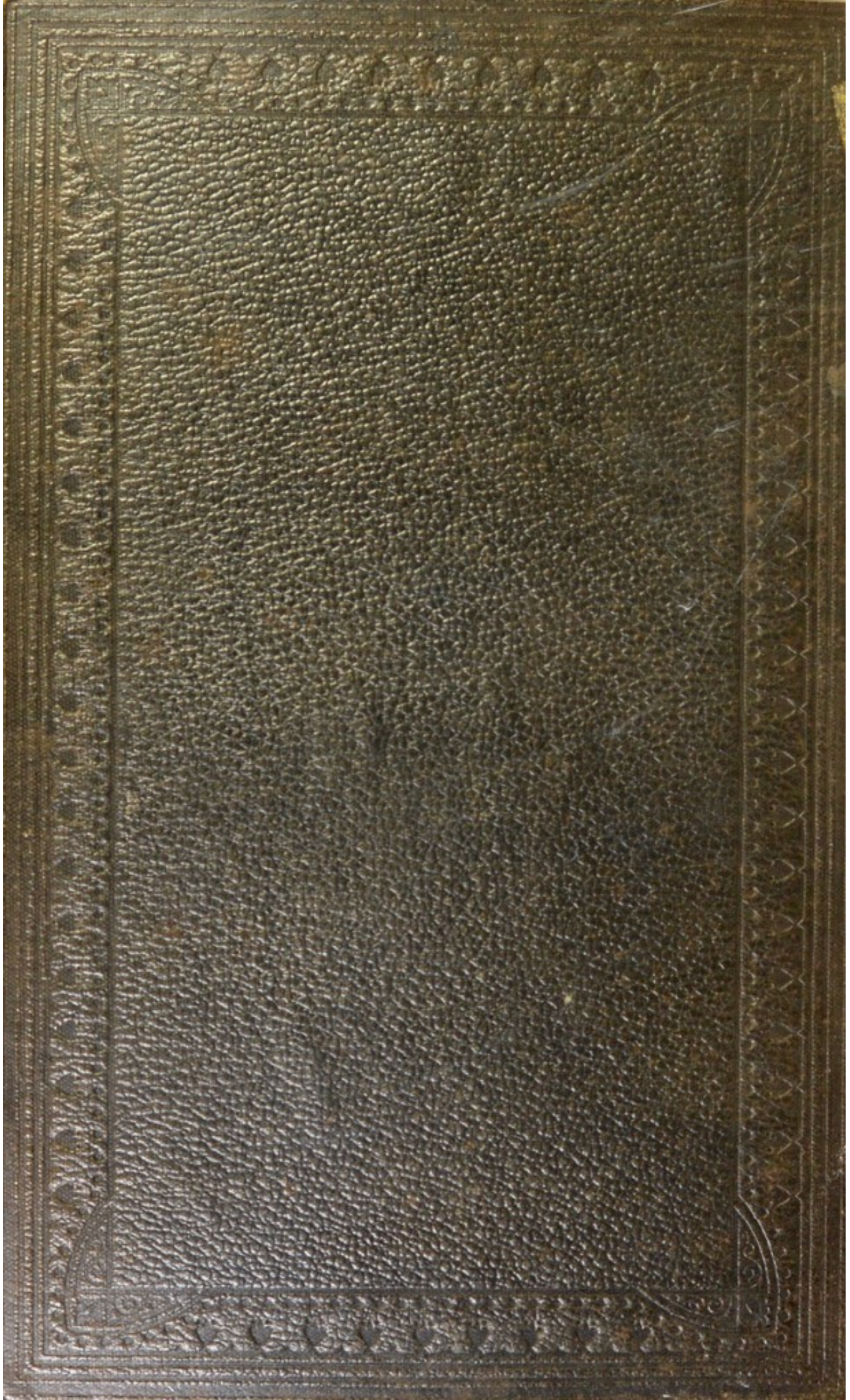

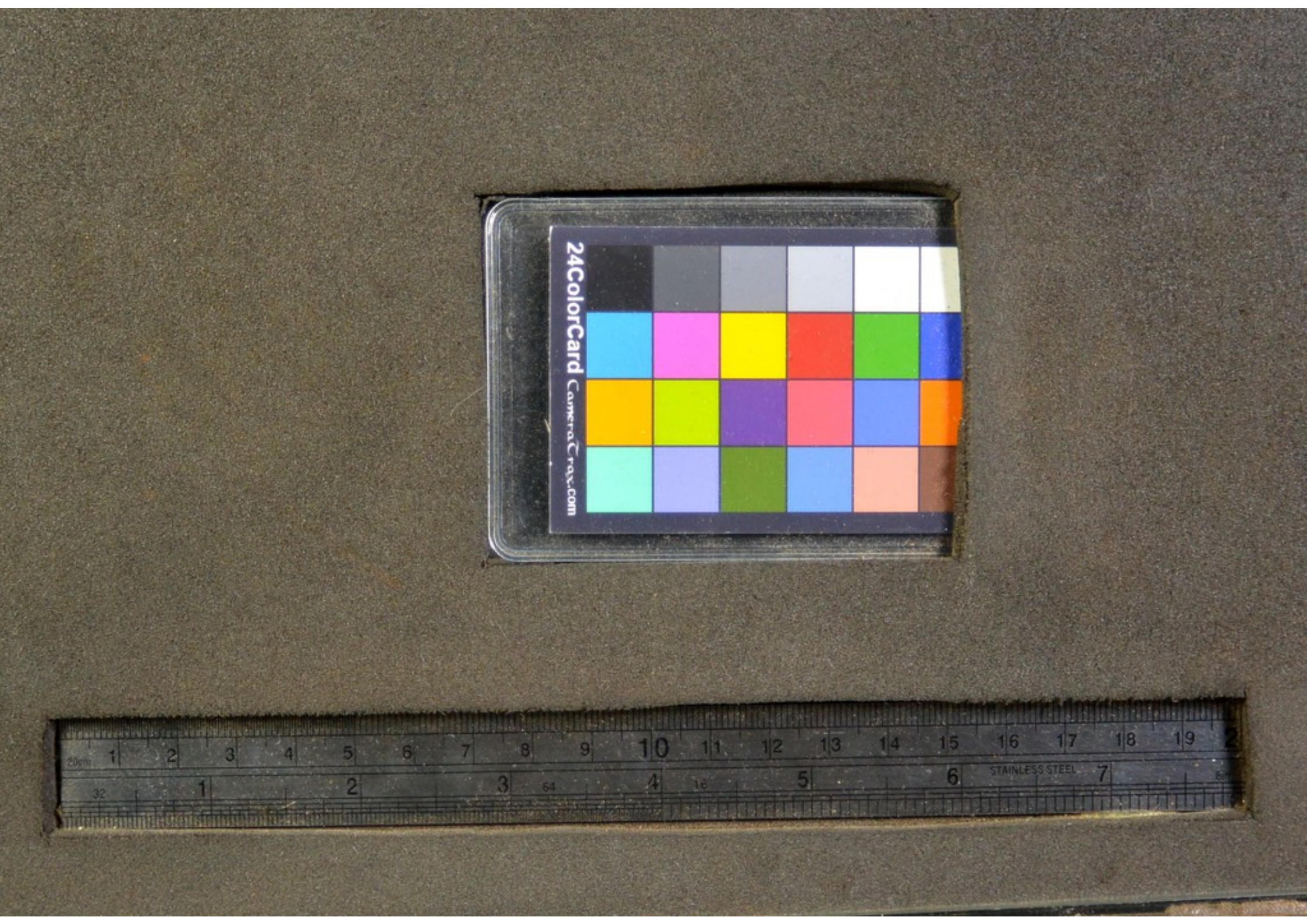
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