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RÈGIS' MANUAL OF MENTAL MEDICINE

BANNISTER



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A PRACTICAL M

OF

MENTAL ME

BY

DR. E. REG

Formerly Chief of Clinique of Mental Diseases, Fa
and Physician to the Sainte-Anne
Laureate of the Medico-Psychological Society and of the
Professor of Mental Diseases, Faculty of Me

TO WHICH WAS AWARDED THE PRIZE
OF MEDICINE, PARIS

WITH A PREFACE BY

M. BENJAMIN I

Clinical Professor of Mental Diseases, Faculty

ROYAL COLLEGE OF PHYSICIANS LIBRARY

SECOND EDITIO

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AUTHORISED TRANSLATI

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LONDON:
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TO MY FATH

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PREFAC

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PREFACE

To the First Edition.

The study of mental disease has within a few years attained an unlooked-for development. Its corps of instruction has been enlarged by the addition of many chairs, and its literature enriched by numerous works, some of which, like the recent volume of Maudsley, view the subject from a philosophical and physiological point of view, while others, like the classic treatises, handle the subject on its systematic side, and still others, intended to familiarize students and practitioners with the elements of mental medicine, take the more modest form of manuals.

This work of M. Régis occupies a middle place among these various types. On the one hand it represents the manual, by its condensation of material, its brevity and clearness, and by its order and conciseness, which will be especially appreciated by those who desire to acquire a moderate acquaintance with the subject without devoting to it long and laborious studies. On the other hand, it is almost a didactic work in the very elaborate manner in which

the subjects of certain chapters are treated, and in the frequent personal and original views which it contains. I will mention in this last connection the attempts at classification which, following so many authors, he has sketched, and the chapters on hallucinations, partial insanity, sympathetic insanities, and especially that on general paralysis.

The spirit which has controlled the production of this work is before all clinical and practical. Without disdaining high philosophical conceptions, the author applies them in general to bring to the front only such subjects as will offer a direct interest in point of view of the diagnosis, treatment and government of the patients. His book is, therefore, especially designed for students who wish to rapidly acquire the necessary knowledge to properly complete their studies, and for practitioners who desire the information indispensable to those who, having to do with the insane, are not always able to command the assistance of the skill of a specialist, which is so readily obtained in the great scientific centres.

In a general way, the ideas expressed in the work of M. Régis, are in accord with the instruction I have given for many years in the asylum of St. Anne, and in which, in his capacity as *chef de clinique*, he has himself borne an important part. The origin-

ality of an independent mind, however, cannot but reveal itself in a work like the present one; and it is not a servile copy of my lectures that is here offered to the public; in many respects he differs decidedly from the views I have taught. I am all the more free, on this account, to praise the excellent spirit in which this volume is conceived, to notice its incontestable merits, and to wish for it a happy fortune in medical literature.

PROFESSOR B. BALL.

INTRODU

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NOVEMBER 14, 1891.

INTRODUCTION.

This work, crowned by the Faculty of Medicine of Paris, and having attained in a few years its second edition, has had a success as unexpected as it has been undeserved. Surely the least I could do towards a recognition of that generous reception was to subject my manual to serious correction and adapt it, to the best of my ability, to the progress of science. I have therefore revised the entire book thoroughly, suppressing superfluities, modifying certain passages, adding new articles and chapters, and aiming always to be as practical as possible. Have I succeeded in this task? It is not for me to say. In any event I hope that I shall be credited, as in the case of the first edition, with good intentions.

E. Régis.

November 14, 1891.

TRANSLATOR'S

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Chicago, 103 State St.,
July, 1894.

TRANSLATOR'S NOTE.

It is a rather remarkable, and perhaps not altogether a creditable fact that, up to the present, we have had no English translation of any modern standard French work on mental diseases and their treatment. No apology therefore seems necessary for having endeavored to present to American readers the work of Dr. Régis which is, as it is considered in France, a model of its kind.

No alterations have been made, the aim having been to give as far as possible a literal translation of the original. Two chapters, however, that appeared in the French edition,—those in regard to the commitment of the insane and their relations to the civil code,—have been omitted, with the permission of the author. They referred exclusively to French law and usage, and hence their practical value could not be conveyed into an American translation.

H. M. B.

CHICAGO, 103 STATE ST.,
July, 1894.

AUTHOR'S PREFACE TO T

On dit communément que la Science
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AUTHOR'S PREFACE TO TRANSLATION.

On dit communément que la Science n' a pas de frontières. Cet aphorisme, vrai peut-être pour quelques unes des connaissances humaines, ne l'était certainement pas il y a quelques années encore, pour la *psychiatrie*. Jusqu' à ces derniers temps, en effet, chaque pays a, pour ainsi dire, cultivé isolément les maladies mentales, ayant à cet égard ses traditions, ses vues particulières, ses méthodes cliniques et thérapeutiques et jusqu' à sa terminologie. Il en résultait un manque de cohésion dans les efforts et un retard dans le progrès.

Aujourd'hui, nous comprenons mieux la nécessité de ne pas rester livrés à nos propres forces et de nous tenir au courant des travaux internationaux, soit par des analyses, soit par des traductions réciproques. Ce mouvement de collaboration universelle a déjà produit de bons résultats et il en produira de meilleurs encore dans l' avenir.

La traduction, sur la deuxième édition française, de mon *Manuel pratique de médecine mentale*, doit être considérée sans doute comme une des manifestations de ce besoin général de se connaître et de s'entendre entre ouvriers séparés d'une œuvre commune. Je n' y vois pas d'autre raison en tout cas, n'ayant pas la présomption de croire à mon livre assez de valeur pour s' imposer par ses qualités personnelles, à l'attention de l' étranger.

En France il a eu quelque succès, par ce qu'il essayait de présenter sous une forme à la fois méthodique, claire et con-

cise, nos connaissances les plus importantes en psychiatrie, médicale et médico-légale. Aura-t-il la même fortune aux Etats-Unis? Je n'ose me laisser aller à cette illusion et je m'estimerai heureux s' il y obtient seulement un accueil quelque peu sympathique.

Quel que soit le degré de faveur qu'il puisse rencontrer, je dois déclarer très sincèrement qu' il la devra tout entière à ses interprètes américains: au savant Dr. Bannister, qui a réalisé une irréprochable traduction, tant par la forme que par le fond; au Dr. Alder Blumer, l'éminent publiciste, qui a conçu l'heureuse idée de faire imprimer le livre à l'asile d' Utica, par ses malades, et de lui donner cette apparence élégante et coquette sous laquelle il se présente ici. C'est la première fois assurément, qu'un ouvrage traitant d' aliénation mentale, se trouve à la fois écrit par un aliéniste, traduit par un aliéniste et, sous la direction d' un aliéniste, imprimé et relié par des aliénés. Puisse-t-il, pour être complet à ce point de vue, être lu et goûté par les aliénistes des Etats-Unis! C'est là mon vœu de la fin.

Je m' en remets pour cela à mes excellents confrères, les Drs. Bannister et Alder Blumer, à qui je serre les mains par delà les mers, en les remerciant bien cordialement de leur précieux concours.

E. RÉGIS.

Bordeaux, 17 février, 1894.

[It is a common remark that science recognizes no frontiers. This aphorism, true perhaps for some branches of human knowledge, certainly has not been true within a comparatively recent period for psychiatry. Up to within

a few years, indeed, each country has, so to speak, studied mental disorders by itself alone, having in this regard its own special traditions, its own particular views, clinical and therapeutic methods, and even its own terminology. The result has been a lack of unity of effort and a hindrance to progress.

To-day we better appreciate the necessity of not confining ourselves to our own investigations and of keeping ourselves in touch with foreign workers, either by means of abstracts and reviews or by reciprocal translations. This tendency to universal collaboration has already given us good results and will produce still better ones in the future.

This translation of the second French edition of my Practical Manual of Mental Medicine should without doubt be considered as one of the manifestations of this general desire of workers in a common field to know and understand each other. I can see no other reason in any case, not having the presumption to believe my book of such value as to impose itself by its own merits upon the attention of foreign readers.

In France it has met with some success as an attempt to present in a form at once methodic, clear and concise the more important facts of our knowledge of medical and medico-legal psychiatry. Will it have the same good fortune in the United States? I do not permit myself to indulge in this illusion and will consider myself fortunate if it obtains only a moderately sympathetic reception.

Whatever favor it may meet, I ought to say will be due to its American sponsors: to Dr. Bannister, who has made an irreproachable translation, both as to letter and substance;

and to its eminent publisher, Dr. Alder Blumer, who conceived the happy idea of having it printed at the Utica asylum by his patients and who has devised for it the neat and elegant appearance it here presents. It is assuredly the first instance of a work treating of mental alienation, written by an alienist, translated by an alienist, and, under the direction of an alienist, printed and bound by the insane. May it not, to carry the point to completion, be read and approved by the alienists of the United States. This is my prayer for its future.

I leave it for this to my excellent *confrères*, Drs. Bannister and Alder Blumer, to whom I stretch my hand across the seas, cordially thanking them for their valuable assistance.

E. RÉGIS.]

BORDEAUX, February 17, 1894.

A PRACTICAL MANUAL

OF MENTAL MEDICINE.

PART FIRST

MENTAL PATHOLOGY.

HISTORICAL.

In order to begin the study of mental alienation with profit, it seems necessary to summarize briefly the history of its progress down the centuries.

This history of insanity, viewed as a whole, includes four distinct epochs.

The first or primitive epoch is that period of ignorance and superstition prior to any medical ideas, in which insanity was considered as coming from the gods, and its treatment confided to the priests. It extended from the beginning of the world down to Hippocrates, who marks the advent of a new era, and with whom begins mental medicine properly so-called.

The second epoch is the classic medical epoch, which starts from Hippocrates and ends with the Roman decadence, after having successively passed through three brilliant periods: the Hippocratic period, the Alexandrine period and the Græco-Roman period.

The third epoch or *epoch of transition*, the beginning of which is marked by the return to the primitive superstitions adapted to the requirements of a new religion, and which did not begin to be dispelled until towards the last days of its history, also includes two periods: the middle ages and the Renaissance. It extends from the commencement of the Christian era to the end of the eighteenth century, that is to say, from Cœlius Aurelianus and Galen down to Pinel.

The fourth or modern epoch is that scientific period *par excellence*, which commences with Pinel, that is, from the great and memorable reform of 1793, was continued with Esquirol and his students, and may be considered at the present time to be attaining gradually its apogee.

Such are the principal stages in the history of insanity. It is now necessary to pass in review and notice briefly the principal facts relative to each.

FIRST EPOCH.

(*Primitive epoch*).

If there is one well established historical fact, it is that of the predominance of the divine idea in the beginnings of society. All peoples in their infancy have submitted to the exclusive yoke of a religious belief to the extent that it seems as if superstition was necessarily one of the first phases of their evolution. In the first periods of existence everything is

referred to celestial intervention, and insanity itself was considered by them as the possession of the individual by a benevolent or avenging divinity.

It was thus with the Jews, as is evidenced by the episodes of the maniacal behavior of king Saul and the attack of lycanthropy of Nebuchadnezzar.

We find analogous beliefs and practices among the Egyptians.* There is in the Bibliothèque of Paris, an Egyptian *stèle* dating from the third century B.C., the inscription on which gives the account of an Asiatic princess possessed by a spirit, who was cured by the intercession of the god Khons. We know also that there existed in Egypt temples dedicated to Saturn where they purified the insane with the purpose of restoring them.

In ancient Greece the condition was the same, and the names *δαιμονῷληπτοι*, *θεόληπτοι*, *ἐνεργούμενοι*, *demoniacs*, *possessed of the gods*, *energumenes*, which were given to those deprived of reason, show plainly enough to what origin was attributed their insanity.

Everyone is acquainted with the history of the

*The restricted size of this book forbids us from citing on each page all the authors, French and foreign, to whom we are indebted for ideas or expressions, and we can only refer, for the bibliography of each chapter, to special treatises and articles in the *Dictionnaires*. We cannot refrain, however, from saying how much we have been aided in the preparation of this history, by the publication of the works of Trélat, Lasègue and Morel, Marcé, Ball, and especially the excellent work of Semelaigne.

unhappy Meleager, with that of the parricide Orestes, and those not less celebrated of the daughters of Pretus, king of Argos, who, afflicted by Juno with a sort of lepra, believed themselves transformed into cows and lowed in imitation of those animals. Tradition relates that they were cured by the shepherd Melampus with the aid of hellebore, purifications and religious ceremonies.

The insane were not always considered, nevertheless, as the prey of the infernal divinities. Among them were found some, who, by reason of their delusive exaltations, passed, on the other hand, as friends of the gods, as inspired, and who prophesied the future. Among these last the Delphian pythoness is one of the most celebrated. With such beliefs as to the nature of insanity, the treatment of the insane ought clearly to consist in religious ceremonies and to be confided to the priests. This is what occurred. In Greece the Asclepiades, a sort of medical priests, who managed the temples of Æsculapius, were specially charged with their cure. Hippocrates, who later scored these charlatan priests and denounced their curative practices in which speculation evidently played the principal part, has left us a detailed account of their treatment of the insane.

The ceremony had for a prelude an adjuration to the malignant deity; they besought it to depart from the body of the possessed. After this, the patient was submitted to purifications, expiations,

exorcisms, ablutions with the lustral water or the blood of a sacrificial victim.

Occasionally there were added to these religious ceremonies some wise hygienic practices: spectacles, recreations, music, promenades, sojourns at thermal baths and exercise in the gymnasium. It thus happened that some of the patients were cured, and this was then attributed at once to the appeasement of the offended deity, and necessarily involved the giving of valuable offerings, to the enrichment of the priests.

Such, in the early ages, were the prevalent ideas in regard to insanity and the means employed for its cure. We shall have to pass rapidly over this rather confused period of the history of mental disease, and merely mentioning the Pythagorean philosophers who, in the fourth and fifth centuries before Christ, received from the priests the notions they possessed to only confuse them sometimes with philosophy, sometimes with physics and metaphysics, we come to Hippocrates, with whom really commences the medical science of antiquity.

SECOND EPOCH.

(Medical epoch of antiquity).

1. Hippocratic Period.

Hippocrates, the creator of mental medicine, belonged to a family of priests, the Asclepiades, who

claimed descent from Æsculapius and possessed, as we have seen, the monopoly of the treatment of the insane in ancient Greece.

He was born, as is well known, in the island of Cos, 460 B. C. Although he wrote no special treatise on mental alienation, it is easy to perceive from an attentive perusal of his writings, that he had a tolerably accurate knowledge of this class of disorders. Even before him some distinctions had been made, as he appears to have borrowed from tradition the terms he employed of *phrenitis*, *mania*, *melancholia* and *sacred disease*.

Hippocrates describes *phrenitis* according to its etymology, together with pleuritis and pneumonia, and locates its seat in the phrenic center. It consists, according to him, in a continuous delirium in an acute fever. Its cause is the heating of the whole body by the blood, itself over-heated by mixture with the bile which displaced it and changed it to serum, affected its movement and its habitual constitution. As to the symptoms, they are fully indicated in the following formula, as succinct as accurate, which is taken from the treatise on epidemic affections: "Acute delirium with high fever, carphologia, small and wiry pulse." The disease, the duration of which varied between the extreme limits of three and one hundred and twenty days, ended in death more often than in recovery.

Although it is difficult to say exactly what Hippocrates and other ancient writers understood by

phrenitis, it is allowable to conjecture that they included under this term the majority of the acute idiopathic or symptomatic insanities, and, in particular, acute febrile delirium.

If the indications relative to phrenitis lack clearness in the Hippocratic writings, this is still more the case in regard to mania. Scientifically the ancient authors, including Hippocrates, considered mania as a violent delirium, either acute or chronic. In the Hippocratic collection we find it generally confounded with phrenitis and melancholia.

Melancholia also lacked any very precise signification. Its two principal characters, according to Hippocrates, seem to have been fear and sadness. The syndrome varied also according to whether the alteration in the brain was due to the phlegm or the bile. If the first, there was no excitement, if the second, this general condition was in different degrees the principal character of the malady.

Besides phrenitis, mania and melancholia, Hippocrates appears to have recognized the insanity of pregnancy and alcoholic insanity. In any case he seems to have observed examples of these.

In the domain of nervous diseases he possessed some vague notions about hysteria, but it is epilepsy that he was best acquainted with, and which he described with the greatest care. He even remarked the fact that epilepsy might be complicated by insanity.

Hippocrates had not merely the merit of first rec-

ognizing the pathological nature of insanity. With the most praiseworthy persistence he combated the medico-religious practices of the Asclepiades in order to substitute for them a more rational and medical treatment. From that time the ablutions, exorcisms and incantations were succeeded by phlebotomy, purgation, emetics, baths, vegetable diet, hygienic exercises, music, traveling, in a word by all the medical appliances available at that epoch. It was he who regulated the use of hellebore (Veratrum album) employed empirically from a very high antiquity as a specific for insanity, and he had his patients go and collect it themselves at Anticyra, a little village in Thessaly, where was found the variety in most repute. Hippocrates appears to have likewise employed mandragora, as a special drug, in cases of suicidal melancholia.

As to how they managed the insane, whether or not there existed especial establishments for their care, and whether restraint or coercion was employed in severe and difficult cases, we are unfortunately left only to conjecture. It seems probable that quiet and inoffensive patients were left at liberty or, at least, in their homes under the surveillance of their servants or relatives, and that certain cases were cared for in asylums (*ἰάτρια*), as appears to be the case from a passage in Plutarch relative to Antiphon, a physician at Corinth. Moreover, a history of a lunatic related by Herodotus leads us to suppose that very rigorous methods of restraint

were employed by the ancients in the treatment of dangerous cases. He says, in fact, that Cleomenes, king of Lacedæmon, having fallen into a frenzy, with violent agitation, his family had him secured by wooden fetters.

Hippocrates by himself alone, as regards the history of insanity, comprises or covers the whole Hippocratic period. His successors, who were only his imitators, added nothing to his medical ideas on insanity, and, at the time of the dismemberment of the empire of Alexander, scientific tradition found itself transported into Egypt, where it assumed a certain brilliancy under the reign of the Ptolemies.

2. Alexandrian Period.

The Alexandrian period, represented especially by Herophilus and Erasistratus, who lived about three hundred years prior to the Christian era, is, in reality, only an intermediate period between Hippocrates or the Greek school and Asclepiades and Celsus or the Græco-Roman school.

Lacking documents in regard to this period, its history is very obscure, and we are compelled to seek what we can learn from Galen, the works of Erasistratus and Herophilus not having come down to us. But from what we learn of the scientific knowledge of these celebrated men and the progress they had attained, especially in anatomy and nerve physiology, we can believe that they possessed rather accurate and extensive knowledge of insanity, and that they

had taken up and developed in this regard the ideas of the father of medicine.

About a century later, under Ptolemy Evergetus II, the scientific movement passed from Alexandria to Rome, thanks to the discords occurring in the family of the Lagides and the dispersion of learned men that followed it. But it was more especially after the victory of Lucullus and of Pompey in Asia, that this movement became prominent in the Roman Empire.

3. Græco-Roman Period.

This period of the history of insanity is merely represented by the names of Asclepiades, Celsus, Aretaeus, Soranus, Cœlius Aurelianus and Galen. It ended with Alexander of Tralles, Paul of Egina, and the Arabs who form a transition between the ancient world and the middle ages.

Asclepiades of Bythinia (80 B. C.), at first a rhetorician, then a physician, an eminent partisan of the philosophical theory of atoms, established formally the line of demarcation of insanity admitted implicitly by Hippocrates, and dating from him authors divided it into *acute alienation* with fever and phrenitis, and *chronic alienation* without fever, or mania and melancholia. Asclepiades also studied the *apperceptions* (visa), and distinguished them very clearly into hallucinations and illusions.

Finally, the fact of the transformation of one form of insanity into another struck his attention,

and it is probably under the influence of this observation that he came to attempt substitutive medication, and especially to advise intoxication in the general treatment of mental alienation.

Celsus (A. D. 5), devoted to insanity only a few pages. In place of the general term *alienatio mentis* employed by Asclepiades, he used the term *insania*, which he applied to the three species comprised in his classification, namely: *frenzy* (acute insanity), melancholia which he attributed to black bile, and lastly, a third form which he divided into two sub-species: 1, *hallucinatory insanity*, gay or sad without delirium (imaginibus non mente falluntur); 2, general and partial delirium (animi desipiunt).

Celsus went more at length into the subject of therapeutics and formulated some very wise and judicious rules as to hygienic and moral treatment. Unfortunately there is a shadow in the picture, since he advises the use of hunger, chains and chastisements to subjugate the victim of insanity when his acts or his words evidence his want of reason. "Ubi perperam dixit aut fecit, fame, vinculis, plagis coercendus ist."

Aretaeus of Cappadocia, (A. D. 80), belonged to the sect of the pneumatists. His greatest title to renown is that he has left behind him very remarkably accurate and truthful descriptions of the various forms of mental alienation, and especially mania

and melancholia. He considered melancholia as a mental depression with concentration of thought on one fixed idea, without fever: "Melancholia in una re aliqua est lapsus, constante in reliquis judicio. Animi angor in una cogitatione di fixus atque inhœrens, absque febre et furore a phantasmate melancolico ortus." It was, therefore, according to him, a circumscribed insanity with limited delusion, in which respect it was different from mania, which he considered to be a generalized disorder of the intelligence.

Aretaeus described melancholia at length and very clearly, and noted especially the bodily symptoms, such as constipation, scantiness of urine, eructations, fetor of the breath, smallness of the pulse, etc.

As regards mania, he considered it, as has already been said, as a general continuous insanity, without fever, and he distinguished it from the toxic delirium produced by wine, mandragora and hyoscyamus by the fact that these latter have a sudden onset and equally sudden disappearance, while mania is stable and permanent. In his description of mania he notes the mental exaltation which in some patients quickens the faculties of memory and imagination so that they converse on astronomy and philosophy and compose poetry apparently beyond their normal ability.

Aretaeus shows in a number of places in his writings that melancholia is a commencement or a species of demi-mania, and that on the other hand

when it tends to subside, it sometimes changes into mania rather by its progress than by the intensity of the disease. He also remarked the fact that an attack of mania may be followed by a period of depression.

That part of the work of Aretaeus devoted to the treatment, and especially that of the treatment of maniacal delirium, has not come down to us. We may presume, nevertheless, from what indications we have, that since the time of Celsus a reaction had taken place in favor of the insane since Aretaeus nowhere mentions restraints or ligatures in his descriptions of even furious cases of frenzy.

Soranus of Ephesus (A. D. 95), whose works have been lost, is only known to us through Cœlius Aurelianus who appears in his writings as his translator and commentator.

It is impossible to say what, in the admirable work of Cœlius Aurelianus, properly belongs to the author and what must be credited to the commentator. It is probable, nevertheless, that Cœlius Aurelianus has, on a great number of points, expressed his own personal opinions.

Cœlius Aurelianus lived about a century after Soranus, of whom he was, as seen, the translator and commentator.

In a point of view of mental pathology, strictly speaking, Cœlius Aurelianus has added but little to the magnificent descriptions left by Aretœus; his

work is limited to perfecting in a number of points, the ideas of his predecessor. Thus he remarks the distinction between frenzy or febrile delirium and mental alienation properly so-called, and he insists on the organic disorders that accompany melancholia, in regard to which he says: "In melancholicis stomachus, in furiosis vero caput afficitur."

It is especially, however, the chapter relative to the treatment of insanity that forms the most valuable part of the work of Cœlius Aurelianus. It gives an admirable exposition of the rules of the physical and moral treatment of the insane, an eloquent plea for gentle measures and consequently for the suppression of coercive methods, in a word, a full statement of that method which has been revived in our day under the title of *Non-restraint*. Cœlius Aurelianus expresses himself forcibly in regard to those physicians who have recourse to severe methods of treatment. One passage in particular deserves to be quoted: "They seem rather to lose their own reason" says he of these physicians, "than to be disposed to cure their patients, when they liken them to wild beasts who must be tamed by the deprivation of food and the torments of thirst. Misled, doubtless, by the same error, they advise the inhuman use of chains, not considering how their members may be lacerated or broken and how much better it is to control by the hands of men than by the often useless weight of iron. They go so far as to counsel bodily violence and blows, as if to compel

the return of reason by such provocations, a deplorable method of treatment that can only aggravate the patients' condition, injure them physically, and offer to them the miserable remembrance of their sufferings whenever they recover the use of their reason."

In another passage Cœlius Aurelianus says further, after advising that the difficult and disturbed cases be cared for by skilled attendants: "If the sight of other persons irritates them, and only in very rare cases, restraint by tying may be employed, but with the greatest precautions without any unnecessary force, and after carefully protecting all the joints and with special care to use only restraining apparatus of a soft and delicate texture, since means of repression employed without judgment increase and may even give rise to furor instead of repressing it." One could hardly plead better in the cause of humanity or lay down wiser rules on the subject of the means of restraint for the insane.

Galen (A. D. 150) the celebrated physician of Pergamus, who wrote five hundred memoirs and whose ideas had an immense influence on his own times and retained the same during the following fourteen centuries, gave a little attention to the subject of mental alienation. The leading point in his writings in this regard, is the division he made between idiopathic insanity and sympathetic insanity, or insanity by consensus, and the importance he accords to the latter in his descriptions.

After Galen everything fell into obscurity and confusion. Alexander of Tralles (A. D. 560) and Paul of Egina (A. D. 630) brought out nothing new in regard to insanity, and as to the Arab physicians Avecenna, Rhazes (10th century) they confined themselves to developing the ideas of Galen as to insanity by consensus, the seat of which they placed in different viscera, and especially in the liver and spleen.

THIRD EPOCH.

(*Epoch of transition*).

1. The Middle Ages.

During the whole duration of the middle ages the study of insanity lost itself in the general chaos and no traces of it were to be found. The belief in demons dominated all imaginations; superstition spread itself in all parts; it was the reign of sorcery, of the witches' Sabbath, of demonopathy, of lycanthropy and of demoniac possession.

Thus occurred in all parts, those terrible epidemics of hysterical religious insanity, the detailed history of which Calmeil has preserved, all of which, after a series of exorcisms, and of more or less solemn mystical ceremonies, ended in the condemnation of the unfortunate insane and their punishment by torture or execution. Thousands of unhappy beings, victims of popular prejudice, atoned with their lives for their loss of reason and became the prey of the

flames. Not a single voice was raised in their behalf, the parliaments themselves were the most bloodthirsty in this barbarous slaughter, and we have to come down to the fifteenth century to take up, in the point of view of the history of mental medicine, the chain so long interrupted. Religious delusions were then still firmly rooted, for the first physicians, among them Ambrose Paré himself, despite the timid protests of Nider, gave supernatural interpretations of insanity and attributed it to demoniacal intervention.

2. The Renaissance.

At the close of the sixteenth century, under the influence of the impulse given by Alciat, Wier, Leloyer, Montaigne, physicians returned little by little to healthier traditions, and Baillon, Nicolas Lepois, Felix Plater, Sennert, Sylvius de le Boë, and Bonet endeavored, not always with success, to loosen the yoke of prejudice that had so tenaciously subjected the foregoing centuries.

Paul Zacchias (1584–1659), proto-physician to the Pope and the states of the church, in his admirable work entitled *Questions Médico-Légales*, devoted a very important chapter to various states of mental alienation. We find developed in it, besides exact and concise clinical descriptions, all the medico-legal considerations suggested by insanity, notably those touching on civil capacity, validity of acts, lucid intervals, and the moral and legal responsibility of the insane.

SYDENHAM (1624–1689), treated of insanity in only an incidental manner, but he noted one interesting point, that of mania developed in consequence of intermittent fevers.

WILLIS (1622–1675), whose works are more important and mark a progress beyond those of his predecessors, gives good descriptions of mania and melancholia, which he divides into partial and general; of stupidity, in which he includes, as has been done since, imbecility and idiocy; of dementia, and even of stupor.

His descriptions are unfortunately involved with long discussions on the animal spirits. He observed the succession of mania and melancholia, and in this are found the first traces of that which has been described later as circular insanity. Willis also admits, though with certain reservations, the intervention of demons. The rules of treatment he gives are full of good sense; unfortunately, however, he did not hesitate to advise, as frequently needful, rigorous methods: "*Prima indicatio curatoria disciplinam, minas, vincula, æque ac medicinam requirit. Furiosi nonnunquam citius per supplicia et cruciatus, quam pharmacia aut medicamentis curantur.*"

BONET (1700), in his *Sepulcretum* insists, like Galen and the Arabs, on the importance of visceral lesions in insanity, and reports at length the lesions met with in autopsies in different organs.

At this same period there were made some fortunate experiments in medication, and the cure of a case of relapse of mania by transfusion of blood was reported, also some other cases cured by trephining.

In the eighteenth century the study of mental pathology entered definitely upon a new course. There still occurred some epidemics of religious and hysterical insanity, perhaps among the persecuted Calvinists, perhaps at the tomb of the deacon at Paris, but their morbid nature was recognized and they were met with treatment, medical in its character.

Vieussens (1641–1720), aside from some neuroses the seat of which he fixed definitely in the brain, only attempted to adapt his knowledge of mental diseases to the humoral theories he supported.

Boerhaave (1668-1738), and his commentator VanSwieten (1700-1772) also subordinated their ideas of insanity to their mechanical theories and attributed everything to the malignity of the blood and the black bile. They give nevertheless here and there good descriptions of mania and melancholia, and they point out, particularly in the following, the principal physical characters of melancholia with profound depression, or, in other words, of stupor: "*Pulsus lentior; frigus majus; respiratio lenta; circulatio per sanguinea vasa bona; per lateralia minus bona; hinc humorum secretiorum, et ex-*

cretiorum minor, tardior, cratior exitus; minor consumptio, parcior appetitus."

Soon however, under the impulsion of Bonet, Vieussens, and particularly of Morgagni (1682-1771), pathological anatomy made rapid progress and there was more and more tendency to abandon the humoral and pseudo-chemical theories and to devote more attention to the examination of the solid structures of the body.

Sauvages (1706–1767), a nosologist *par excellence* made an infinite division of the various forms of nervous disorder. His eighth class made up of the *vesanias*, or disorders that affect the mind, is itself sub-divided into four orders: 1. *Hallucinations* vertigo, dimness of vision, diplopia, tinnitus, hypochondria, somnambulism. 2. *Morosities*, depraved desires or affections (pica, bulimia, polydipsia, antipathies, nostalgia, panic terrors, satyriasis, uterine furor, tarentism, hydrophobia). 3. *Delirium* (ecstacy, dementia, melancholia, mania, demonomania). 4. *Abnormal aberrations* (loss of memory, insomnia). Each of these is again split up into more or less numerous subdivisions.

Here and there we find in Sauvages some good descriptions, notably that of anxious melancholia (melancholia attonita). But his merit is in having brought together under the name vesanias and in a complete classification, nearly all that was known in his day of mental diseases.

Lorry (1725–1772) published some good descrip-

tions which were confused, however, by his return to a doctrine half solidist, half humoral.

Cullen (1712–1792), who forms the transition between the Renaissance and the modern epoch, rejected the humoral theory entirely and insisted upon the necessity of anatomo-pathological researches. He classed mental disorders among the neuroses, which form the fourth class in his work. He described *systematized insanity*, remarking at the same time the rarity of finding insanity limited to a single subject, and admitted in his final arrangement only two primary forms of insanity from which he derived all others : mania and melancholia. In the part devoted to treatment he recommends employment, baths, and bodily exercises, and authorizes forcible methods of repression only reservedly.

With Cullen we are already far removed from the ignorance and obscurity of the middle ages and mental science had already realized an immense advance. The condition of the insane was, however, still deplorable; they were scattered through the jails, in a few asylums, or in miserable cells. Very few were in hospitals, and the so-called hospitals that contained these were in reality only prisons. Their study was therefore as difficult and incomplete as their lot was deplorable.

At Paris, after an act of Parliament dated September 16, 1660, the insane passed first through the Hotel Dieu, where two wards were reserved for them. The ward St. Louis, devoted to men, con

tained ten beds for four each and two small beds. St. Martin ward for females contained six large beds and six small ones. Some places in these wards were reserved for cases of hydrophobia, then the treatment employed consisted invariably in douches, cold baths and repeated bleedings, with the internal use of hellebore, purgatives and antispasmodics.

If after several weeks the patients remained uncured, and we can see readily how such a course could do little to restore the reason, they were considered incurable and distributed either to the Petits Maisons, which afterward became the hospital of the Ménages, the Salpêtrière, or the Bicêtre.

There ill-nourished, covered with rags, loaded with chains and collars of iron, confined in infected cells intended for criminals, bedded on rotten straw, breathing a mephitic atmosphere, they dragged out a miserable existence, exposed to the view of the public who, being admitted on holidays on the payment of a fee, repaired to view the sight and to tease them like wild animals through the bars of their cages.

It was at this time that Pinel appeared and brought about the memorable reform of 1793, which changed completely the lot of the insane and inaugurated a new era in the history of mental medicine.

FOURTH EPOCH.

(Modern epoch).

Philip Pinel, born in 1755 at St. Paul, near Lavaur (Tarn), and graduated at Toulouse, became physician to the insane at the Bicêtre in 1793.

We have seen in what condition he found the insane. Thanks to his earnest protests, which he made to be heard, he succeeded in removing their chains, and provoked also a general movement in favor of these unfortunates. For bad treatment, brutal violence, blows and chains, he substituted wisely combined methods of repression, he praised the effects of firmness combined with mildness and patience, and finally laid down the first bases of moral treatment. He demonstrated the necessity of creating special establishments for the insane, pointed out the principles that ought to govern their construction, their organization and their management, the need of the separation of the patients in distinct quarters according to the nature of their mental disease; in a word drew up the first rules for the hospitalization of the insane and made to be understood the *rôle* of the physician in the observation, and medical and material direction of his patients. He was aided in the practical details of his reform by the overseer of the Salpêtrière, Pussin, his modest collaborator, whose part was not a less active one and whom Pinel himself has associated, in a certain measure, with the honor of his glorious innovation.

Such is, in substance, the story of the reform instituted by Pinel. One man by his generous initiative and his persistent will, realized that which many centuries had vainly sought: the rehabilitation of the lunatic and his elevation to the dignity of a sufferer from disease. It is needful, however, to be just, to recognize that this undertaking came in its own time and that it was, so to speak, one of the manifestations of that immense philanthropic tendency that enwrapt all the great spirits of that epoch.

Moreover, the undertaking of Pinel was not an isolated one. At the same moment similar efforts were being made at other points. Already in Savoy Daquin had preached the same humanitarian doctrine in a more modest sphere, while Chiaruggi in Italy published in 1794 his treatise on Insanity, General and Special, in which he stated the results of the ameliorations obtained by him in the asylum of San Bonafacio in Florence.

In England, a simple citizen of the city of York, William Tuke, succeeded by his own endeavors in doing still better. Witnessing the grave abuses that prevailed in the asylums, he influenced his co-religionists of the sect of Quakers, or the Society of Friends, to found an institution from which should be banished all severe physical measures and bad treatment. The first stone of the York Retreat was thus laid in 1792, and from its opening in 1796 it became the starting point of the suc-

cessive improvements in the care of the insane in England.*

Pinel was not merely a reformer, he was also a man of science. Bringing together all the clinical and therapeutical observations he had made in regard to the insane, he published in the year IX, his *Traité de la Manie*, in which, after recalling the admirable works of ancient writers, he stated his own medico-philosophical views on mental alienation. This little work, of which Cuvier said in the Institute, "That it was not only a medical work but also a masterly work on philosophy and even morals," had a great success, and has since remained justly celebrated.

Pinel admits and describes four species of insanity, *mania*, *melancholia*, *dementia and idiocy*, in which he confuses, like Willis, idiocy and cretinism, and also dementia with melancholic stupor.

At this time there arose in Germany the school known as the German psychological school which started from the spiritualistic theory of Stahl, according to which diseases are only the perversion of the

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*This quasi-simultaneousness of reforms in different countries has, as might have been expected, brought up more or less irritating disputes as to priority as to the claims of Daquin, Chiaruggi, Tuke, and Pinel. Such controversies tend to diminish their glory, and it seems better to include them all alike in our admiration. In the words of Hack Tuke, the worthy grandson of the English philanthropist: "There are enough evils in the world for the few reformers who appear from time to time and there is no need of creating between them a state of hostile rivalry."

moral tendencies of the soul produced by sin. Sin, therefore, became the principal cause of insanity.

Langermann and his pupil Ideler were the founders of this psychological school which counted among its adherents some illustrious names, and one of its most celebrated representatives was Heinroth (1773–1843), one of the better disciples of Pinel, who held that insanity had its source in the absence of morality, that its essential character was the loss of liberty, and its best preservative, attachment to the truths of the Christian religion.

The opinions of the German psychologists, by their exaggeration, did not fail to provoke a lively opposition. In Germany, there arose a new school, the *somatic* school, which had for its chiefs, Nasse, Friedreich, Vering, Amelung, Jacobi, Griesinger, and in Holland, Schrœder van der Kolk. They all protested against the *outré* spiritualistic doctrines of the psychologists, and labored to prove that insanity was connected with physical lesions, either cerebral or visceral. Like Galen and the Arabs, they accorded the place of honor in psychiatry to the sympathetic insanities.

In France, Esquirol, born in Toulouse in 1772, succeeded Pinel, and his work was as important in its influence on mental medicine, properly speaking, as that of Pinel, on the moral condition and the treatment of the insane.

As a philanthropist and reformer, he continued the work of Pinel, contributed to the construction

and organization of numerous asylums, of which he himself drew up the plans, he improved more and more the condition of the insane; and finally prepared the way, by his travels and writings, for the movement that ended in the famous law of 1838, that has been of so great service, and for which Falret, Sr. and Ferrus worked actively.

As a *savant*, Esquirol left the domain of pure speculation to devote himself to observation and clinical work; he drew up admirable tables of the principal forms of insanity, to which he added monomania, and finally suspected the existence of general paralysis.

As a *teacher* he formed and directed a magnificent constellation of students, so numerous and brilliant that discoveries accumulated, and mental medicine has never made so great a progress within so short a time.

At Charenton, Bayle, Delaye, Georget, Foville, Sr. and the venerable Calmeil discovered and described the symptoms and lesions of general paralysis.

At the Salpêtrière Trélat described reasoning mania; Félix Voisin made a profound study of idiocy; Falret, Sr., combated the doctrine of monomania, sent out new general ideas on mental diseases, and, teacher in his turn, left behind him pupils like Morel (the illustrious author of the memoirs on degenerations, hereditary insanity, the etiological classification, and the introducer into France of the system

of *non-restraint* recommended in England by Gardiner Hill and .Conolly), Charles Lasègue, (the describer of persecutory insanity), and finally his own son, the eminent clinicist, Jules Falret. There is also Leuret, the promoter, perhaps too much the subject of attack, of moral treatment, and M. Baillarger, whose clinical discoveries so important and well known are too numerous to be enumerated here.

Still to be mentioned are the names of Marc and Fodéré, the revivers of the legal medicine of insanity; Ferrus, Parchappe, Marcé, and others in France and elsewhere too numerous to mention. It will suffice to cite only Conolly, Guislain and Rush, whose influence in the progress and treatment of insanity in England, Belgium and America is more or less comparable to that of Pinel in France.

It is necessary to stop here since we encroach on the present times and some of the names we might cite, although already belonging to history, belong to those who are still our masters. The future will have to judge as to the progress made in the study of mental alienation since Pinel and Esquirol.

FIRST SECTION.

GENERAL PATHOLOGY.

Chapter I.

§ I. DEFINITION.

Distinction between Insanity and Mental Alienation.—In common medical language the term mental alienation has become synonymous with insanity, and these two designations are usually employed interchangeably. Scientifically, nevertheless, they have different significations, and it seems the more necessary to define them accurately as this difference is a fundamental one in the classification here adopted.

Mental alienation is a generic term that includes in a general way all the alterations of the intelligence from the normal, whether constitutional or functional, congenital or acquired, transitory or persistent. Insanity has a less extended signification, it is only one of the conditions of mental alienation, and signifies the loss of reason strictly speaking, occurring as a disease in an individual hitherto sane. An example will serve to illustrate the distinction. An imbecile is mentally alienated, inasmuch as he presents an evident defect of intel-

lect, an arrested development, but, however imbecile he may be, he may not be insane, and may use normally the restricted intelligence he possesses; he is not a lunatic. But when this imbecile, under the influence of any cause whatever, is attacked with mania or melancholia, we have a new element in his case, his insanity, which is superimposed upon the primitive basis of alienation; the mentally alienated individual has become a lunatic.

We may add, to accentuate the distinction, that beyond the symptoms it has in common with mental alienation, insanity is nearly always unconscious of itself to such a degree that it may be called a misfortune that ignores itself, and that it has for a principal symptom, if not an absolute criterion, the loss of free will, that is, of the faculty by which the sane man decides and acts with knowledge of the cause, with full freedom and reflection. For this reason, so far as an insane person is not really dominated by his morbid influences, and remains to a certain degree master of himself, *compos sui*, he can be considered as not being a lunatic in the full sense of the word, there still remains a last step for him to take, that of the pathological subordination of his *ego*.

We may call mental alienation therefore, *the total of the pathological conditions essentially characterized by disorders of the intelligence.*

As to insanity, it has been thus defined by Esquirol: "A cerebral affection, ordinarily chronic, without

fever, characterized by disorders of the sensibility, of the intelligence, and of the will."

This definition, considered as the best of all those so far offered, and they are numerous, is nevertheless very imperfect, inasmuch as it may be applied indifferently to all chronic cerebral affections in which there is any psychic disorder, and in that it does not especially include the distinction we have noted between mental alienation and insanity.

In order to be more precise and yet without pretending to give an accurate definition of insanity, which is in the present state of our knowledge almost an impossibility, we may say that insanity *is a special disease, is a form of alienation characterized by the accidental, unconscious, and more or less permanent disturbance of the reason.*

Synonymy. Terminology.—Mental alienation has as synonyms, mental diseases or *phrenopathias;* insanity, *psychosis* or *psychopathy;* mental medicine, *psychiatry* or *freniatry.*

As to the words dementia, monomania, hallucination, delusion, which are often improperly used by the public as synonyms of insanity, they have each a particular and very different signification. Thus dementia is a form of alienation, and it can scarcely be made the equivalent of insanity anywhere except in judicial language where this usage has prevailed. The same is the case with monomania or systematized insanity, which is only a special form of insanity, and should not therefore be confounded with it.

Finally, as to delusion and hallucination, they are merely the names of two primary or symptomatic elements of insanity.

There remains a term, habitually misapplied, whose signification as established in scientific language it is important to state correctly: it is the term vesania. We give the name vesania to the pure insanities in order to distinguish them from those connected with other morbid conditions, into which they enter only as symptoms or complications. For example, the insanity of persecution is a type of vesania, as it is idiopathic and forms by itself alone the existing morbid condition; paralytic insanity, or the insanity that so frequently accompanies general paralysis, on the other hand, is not a vesania since it is connected with a cerebral disease, an organic affection of the nervous centres. It is needless to add that the insane termed vesanics are in consequence those affected with pure insanity or vesania.

§ II. ETIOLOGY.

One of the most important parts of the study of mental alienation is that of its etiology, and this is what many authors, notably Morel, have made the basis of their classification.

The same as with most diseases, there are, for mental alienation, predisposing and occasional causes. The more important of these have been

brought together by Marcé in the following synoptical table:

- **Predisposing causes.**
  - **General.**
    - Civilization.
    - Religious ideas.
    - Political events.
  - **Individual.**
    - Heredity.
    - Age.
    - Sex.
    - Climate.
    - Civil condition.
    - Profession:
    - Education.
- **Occasional causes.**
  - **Moral.**
    - Emotions, passions, chagrin.
    - Imitation.
    - Cellular imprisonment.
  - **Physical.**
    - Local causes.
      - Acting directly on the brain.
      - Acting at a distance and sympathetically.
    - General causes.
      - Anæmia, cachexia, seminal losses, onanism.
      - Diathesis, *dartres*, rheumatism, typhoid and intermittent fevers.
    - Physiological causes.
      - Menstruation, pregnancy, confinement, lactation.
    - Specific causes.
      - Intoxications: lead, mercury, opium, belladonna, poisonous *solanaciae* haschich.

A word on each of these causes in particular.

Predisposing Causes.

Civilization. Race.—It is generally recognized that civilization, by the needs it creates, the habits of luxury and pleasure it excites, and finally by the struggle for existence that it necessitates, favors the development of mental alienation. Nevertheless, it is impossible to say with certainty whether the number of the insane actually increases progressively, and, if so, in what proportion. The census figures have shown how it has been in France: in 1835 there

were 16,538 insane or 4.96 to each 10,000 inhabitants; in 1841, 18,367 or 5.37 to each 10,000; 1861, 46,357 or 12.95; in 1866, 90,709 or 23.82; in 1876, 83,012 or 22.50 to the 10,000. Judging only from these results it would appear that the number of the insane among us has quintupled during the past thirty-five years, but there is in this evidently an exaggeration due to the greater accuracy of the recent censuses. If we take the insane, not as enumerated in the census, but the number admitted to the hospitals, we find that the increase of admissions which was annually 12.5 per cent. forty years ago, is to-day only 1.70 per cent. The number of admissions has therefore a tendency to become stationary. This proves, as Lunier states, that the increase in the number of the insane, admitting that it exists, is, in any event, less considerable than is generally believed.

Another interesting series of statistics is that of the insane of the Department of the Seine from 1801 to 1883. It is seen from these figures, that there were on January 1, 1801, 945 insane maintained at public expense, while on the 31st of December, 1883, the number was 8,907, or more than six times greater, while in the same space of time the general population of Paris has hardly more than tripled itself, having been 600,000 at the beginning of the century and 2,237,928 by the census of 1881.

The statistics of other countries seem likewise to afford contradictory results.

There is, nevertheless, an interesting fact to be noted relative to the progress of insanity in the black race. Solbrig had already observed that in America the free negroes of the Northern States had proportionally, as it appeared, five times as much insanity among them as existed among their colored brethren of the South. According to the more recent researches of Buchanan, the development of insanity has increased rapidly in the colored race since emancipation.

In 1850 there were enumerated 618 insane amongst the black population of the United States, in 1860 their number was 766, or one for every 5,799. In 1870 there were 2,695 colored lunatics; in 1880 the proportion was 1 to 1,096, so that, admitting a regular increase, this proportion, says the author, will rise to 1 to 500 in 1890, thus equaling the frequency of mental alienation among the Americans of the white race.

If it is impossible, according to these data, to establish in any positive manner the influence of civilization upon the frequency of insanity, its influence on the type of alienation, on the other hand, is much more certain. We may say, indeed, that the pure insanities, or vesanias, have existed from all time and probably without increasing to any considerable extent. Among them the generalized insanities, mania and melancholia, have continued absolutely identical with their type in ancient times, as anyone may con-

vince himself by comparing the description given by the writers of antiquity with the diseases as we see them at present. As to the systematized insanities, while remaining fundamentally the same, they vary in expression according to the period and the surroundings. The mental infirmities due to a vice of organization (idiocy, cretinism) seem to diminish with civilization, mainly on account of the amelioration in the material life that results from it. Alcoholism, alcoholic insanity, and in a general way all the toxic cerebropathies increase very notably, especially in certain countries and in the great centres. Finally, general paralysis, absolutely unknown prior to the present century, whether it existed then or not, is becoming more and more frequent, especially in the female sex.

It would be interesting, aside from the effects of civilization in general, to indicate the comparative liability of the various races to mental alienation and to each of its forms. Unfortunately we lack reliable statistics on this point. It appears, however, from certain memoirs, particularly an interesting publication in 1888, by Drs. Bannister and Ludwig Hektoen of Illinois, in regard to a considerable number of patients treated in their asylums, that the Jewish race stands at the head, especially as regards general paralysis, mania and melancholia. The African, Anglo-Saxon and Anglo-American, Latin, Teutonic, Celtic, and Scandinavian races follow after with figures more or less variable. But, I repeat, these

results, being purely local, cannot be taken as representing the real state of affairs in its totality.

Religious Ideas.—The influence of religious ideas in the production of insanity varies according to the epoch, the country and the surroundings. Very active in France at the times of the religious wars of the reformation, and of ardent polemics, it has become much less at the present day, though still somewhat apparent. On the other hand, it still plays a large part in countries where the religious sentiments occupy one of the chief places in the public mind. Nothing is more communicable than ideas of religion and mysticism; for this reason the insanity they engender takes most frequently an epidemic type.

Religious ideas give rise to insanity principally in those who offer the easiest prey, that is, in a general way, the weak-minded, children, females, nervous persons, and especially members of religious orders, male and female, and more particularly those of a mystic and contemplative character.

They have also a very manifest effect at certain stages of life, especially the great epochs of sexual life: puberty and the menopause. It is known, moreover, that direct relations exist between mystic and erotic ideas, and that very often these two kinds of conceptions are found associated together in insanity.

Political Events. Wars.—The importance of political commotions, revolutions and wars as a cause

of mental alienation has always been overestimated. The truth is that these great events have for a special effect that they call out and bring before the public a certain number of lunatics who in peaceful times would have passed unnoticed, and also that they communicate a special coloring to the delusive ideas of the time. Great scientific or social movements that occur in society act in the same way. Great discoveries, or inventions, and powerful associations hardly indeed affect the insane except to color their delusions and impress upon them a special physiognomy.

Heredity.—Heredity, which is, without contradiction, the most powerful and important of all the causes of insanity, merits a few words.

Definition.—By heredity is understood in mental pathology *an original predisposition to mental alienation transmitted to children from their parents.*

Nature. Frequency.—The source of this predisposition may be not merely mental alienation in the ancestors, but other related diseases, eccentricity, neuroses, alcoholism, certain diatheses, consanguinity, &c. Because of not accepting heredity in its widest and truest signification and restricting it more or less to cases of direct transmission of insanity itself, there was some disagreement as to the exact frequency of this cause of alienation. In reality, we may admit with Marcé, that we find some antecedent in nine-tenths of all the cases.

Characters. Forms. Varieties.—Heredity is most frequently from the parents, that is, it is immediate. It may be on the side of both father and mother, and in that case, it is called *double*, or from *convergent factors.* Generally, it is from one parent, either father or mother, and then it is *simple heredity*, either *paternal* or *maternal.* According to Esquirol the latter is the more serious of the two. It is also three times more common than paternal heredity, according to M. Baillarger.

The heredity may be traced from the grandparents, having passed by the immediate ancestors. It is then *mediate* heredity. It may also have existed for many prior generations and in that case it is called *cumulative.*

Heredity is either *direct* or *collateral* according as it is observed in parents or grandparents or in collateral branches of the family.

Hereditary insanity may appear in children at the same time that it appeared in the parent, and it is then called *homochronous.* It may also appear in children a longer or shorter time before it is seen in the parent. It may then be called *anticipatory* as regards the parental disease, which has so far remained latent.

The hereditary taint may reveal itself in the children by a mental disorder identical with that of the parent. This occurs in cases of suicidal impulse and sometimes also in certain forms of alienation, such, for example, as circular insanity. It is then

similar or *homologous.* It is *dissimilar* or *transformed*, on the other hand, when it is modified in passing from one generation to another. This is generally the case and it may become more and more intensified and end in the degeneration of the race, *i, e.*, be *progressive;* or it may, on the contrary, become attenuated by a series of fortunate crossings, and finally disappear entirely,—it is then *regressive.*

The hereditary taint does not affect all the members of the same family indiscriminately,– a certain number may escape its influence. It is even the rule, according to Morel, to see in insane families dissimilar types. This dissimilarity may sometimes reach a point that we find in these families, together with insane and degenerated individuals, men of talent and even of genius. (Relation of genius with insanity.) In some instances, two or more brothers or sisters, together or separated, are affected simultaneously and in an identical manner. (*Folie à deux*, *Folie gemellaire*).

As a rule, the children most liable to the hereditary taint are those whose birth was nearest in time to the attack of insanity of the parents. This is notably the case with children born of a mother in an attack of puerperal mania, or begotten by a father in a state of intoxication.

Heredity, in mental alienation, seems to affect several types, the principal ones of which are: (1) vesanic heredity, or the heredity of pure insanity or vesania; (2) cerebral or congestive heredity,

i. e., the heredity of cerebral affections and general paralysis; (3) neurotic heredity, or that of the neuroses.

AGE.—The frequency of mental alienation is most marked in the middle period of life; before and after that it gradually diminishes according as we approach the two extremes of infancy and old age. The principal important periods of life, such as puberty and the climacteric, are the signal for a recrudescence of the frequency of insanity.

SEX.—In general statistics of mental alienation the male sex figures more largely than the female: the proportion is 114 to 129 males to each 100 females. If the cases of idiocy and cretinism, most frequent among males, are excluded, a certain equilibrium is re-established, and if we go further and take out all the cases of general paralysis and alcoholism, we find that pure insanity is more frequent in the female than in the male. It is necessary to add that certain mental disorders, like those connected with pregnancy, are peculiar to the female, and that some others, common to both sexes, have special characters in women.

CLIMATE. SEASONS. LUNAR PHASES.—It is scarcely possible to state the comparative influence of different climates on the production of insanity, because of the multiplicity, and especially the diversity, of the superadded causes. The one fact that appears to be settled is the greater frequency of alienation

at certain seasons, especially in the semester of March to September. Examining, from this point of view, the statistics of 32,000 patients passed through the Infirmerie du Depot at Paris, Planes found that the number of insane constantly increased from January to June. After June a decrease was observed with almost or quite the same regularity, and was followed by a considerable increase in October. Legoyt and Ogle obtained similar results. The latter, among 42,630 suicides in England and Wales, found the minimum in December and the maximum in June. The order of importance of the trimesters is, according to Planes: the second, the third, the first, the fourth. The maximum does not correspond, as is generally believed, with the heats of summer, but with the effervescence of spring.

The ancients and, in more recent times, Esquirol, attached a certain importance to the influence of the seasons, not only on the development but also on the course of insanity: this or that attack should pass off at such a time; if is was passed without recovery the prognosis became more serious. As to the influence of the lunar phases, formerly regarded as so important that in some countries it gave a name to the insane individual (lunatic), it is hardly admitted at the present time. It appears, nevertheless, that it may have some effect on the return of the attack in intermittent insanity, and especially in circular insanity.

Civil Condition.—All statistics are in accord in recognizing that insanity is more common amongst

celibates than amongst married individuals. The fact is usually explained by saying that the condition of celibacy favors irregularities of living and deprives the individual of moral support. It would perhaps be more correct to say that the same cause that produced insanity was also responsible for the celibacy. It appears, in fact, that those predisposed to insanity are, by reason of their special temperament, often led to put off marriage and lead a solitary and egoistic existence. It is also to be remarked here that by a sort of attraction, frequently unconscious, the predisposed to insanity have a tendency to seek out alliances amongst themselves. Finally it is proper to say that the condition of widowhood has a positive influence on the development of insanity.

Professions.—In all countries, but in England especially, soldiers and sailors occupy the first place, as regards numbers, in the statistics of mental alienation. General paralysis is especially frequent amongst them. Certain forms of epidemic insanity, such as nostalgia, suicidal impulse, are not infrequently met with in the ranks of the army.

In the liberal professions, lawyers, ecclesiastics, physicians, writers, and artists appear to pay the largest tribute to insanity. According to a rather widespread notion, alienists and all others who live with the insane will have a tendency to lose their reason, from the effect of contiguity. This is, it is needless to say, a popular error, since contact with the in-

sane can have no effect except upon those already predisposed.

In the manual professions those most exposed to become insane are such as work in toxic or dangerous substances, and in particular alcohol, and those who are exposed to intense heat, such as firemen, engineers, cooks, employés in manufactories, etc.

Education.—A vicious education, too rigid or too lax, as well as too rapid and precocious, may give rise in the child to tendencies to insanity, or, what is more common, develop tendencies already existing. The education therefore of those predisposed to insanity and the children of the insane require special care and regulation.

Occasional Causes.

1. Moral Causes.

Passions. Emotions. Imitation.—The action of occasional causes, moral and physical, on the development of insanity is undeniable, but it ought not to be overestimated, and it is well to know that without an already existing predisposition, without the conjunction of the seed and the soil, in the words of M. Ball, this action would be inefficacious.

Among the occasional causes, the moral causes take the first place, and among these the passions and the emotions, which really include all. The depressive emotions have a much more powerful

action than their opposites. Those that have the most effect are the violent emotions, terror, the moral shock due to criminal assault, the impression made by the first conjugal relations (post-connubial insanity), the loss of a beloved wife, disappointment in love, the mental preoccupations due to poverty, strange mystic emotions, but, before all, domestic troubles and business reverses. However sudden and unexpected the action of these causes may be, it is very rarely that the insanity manifests itself immediately, as is wrongly supposed by the public, at least in its full intensity.

As to imitation, it may have a certain action on weak mental organizations always ready for any occasional cause. This action may affect at the same time a large number, as in the famous epidemics of insanity in the middle ages, and, as happens at present, from the influence of the recitals of certain crimes and suicides in the press; at other times it acts within narrow limits, the intimate relations of the family and the home (*folie à deux*, *suicide à deux*).

Solitary Confinement.—As has been said by Lélut, the greater frequence of insanity in a criminal and convict population is a fact as well known to science as to the law. But if it be correct to say that imprisonment, and solitary confinement more particularly, have a certain influence on the mental condition of the prisoners, it is necessary to recog-

nize also the fact that the true cause of prison insanity is not in the prison but in the prisoners, who are often lunatics or on the point of becoming such at the time of their condemnation, and who, moreover, are frequently recruited among the semi-imbecile, the perverse and ill-balanced. M. Semal, of Mons, who has made a minute inquiry in regard to 905,000 accused and convicted persons in Belgium, (Congress of Paris, 1889), has likewise shown that individual predispositions, heredity in particular, constitute the principal factors of insanity among prisoners. As to the occasional causes, they rank in the following order: 1, Insufficient food; 2, solitary confinement; 3, onanism; 4, loss of freedom, sedentary life; 5, various moral influences. The atmosphere of the prison has, he claims, an evident action on the evolution, and more particularly on the form of the mental disorder. The frequency of hallucinations of hearing, notably in those confined by themselves, is an undeniable proof of this.

2. Physical Causes.

a.—Local Causes.

1. Direct.—Injuries of the head may be the starting point of insanity, and even, it is said, of general paralysis. The same is true of diseases of the bones of the cranium, cerebral tumors, erysipelas of the scalp, and especially inflammation of the middle or inner ear. Insolation also calls for special mention,

among these causes, as in some countries it is a frequent source of insanity.

2. Sympathetic.—Some local physical causes, produce insanity by an action at a distance and by *contrecoup* instead of directly, whence the terms sympathetic insanity or insanity by *consensus* given to the disorder they thus produce. The principal ones of these causes are, the physiological and pathological processes of the genital apparatus (puberty, menstruation, menopause, pregnancy, affections of the genitals), disease of the abdominal viscera, the presence of worms in the intestines, etc. The mechanism of the production of the insanity in these cases seems often to be an auto-intoxication, through excessive production or retention of poisons of the system.

b.—General Causes.

Anæmia. Cachexia. Diatheses. Fevers.—Chlorosis and anæmia, by debilitating the organism and the brain, favor the development of insanity. Excessive seminal losses and onanism seem to act in the same way. As to the diatheses, such as the arthritic, dartrous, syphilitic, etc., they also have an action in the development of insanity, either as they directly give rise to lesions in the brain, or as the insanity supervenes during one of their acute phases, or after the disappearance of one of their manifestations, cutaneous or otherwise, as if by a sort of metastasis, or as the toxic effect of a nutrition retardant.

Among the fevers, typhoid and intermittent fevers are more or less important producers of insanity. This latter has also been observed to follow cholera and *la grippe*. It is less rare to see it occur, either during the course or the decline of certain acute affections such as pneumonia, variola, erysipelas, etc.

c.—Physiological Causes.

Puberty, menstruation, the climacteric, pregnancy, confinement, lactation, etc., are very often accompanied with intellectual disturbances which, in some cases, may end in insanity. This is usually ranked among the sympathetic insanities.

d.—Specific Causes.

A certain number of toxic substances that have a decided action on the nervous system may give rise to insanity. The more active of these substances, at least in Europe, are alcohol, the ravages of which are fearful in France, in the large cities of the north, lead, opium, tobacco, haschisch, and lastly morphine and cocaine which for some years have been the fashionable poisons, especially amongst nervous women, ataxics, and ill balanced individuals.

§ III. PROGRESS.

Distinction of Insanity into Acute and Chronic.—Mental alienation, though a disorder of slow evolution and usually chronic, may present it-

self under an acute or under a chronic form, properly so-called.

The mental alienations that we shall study later on under the name of constitutional alienations, are durable and permanent conditions. As to the insanities or functional alienations, only one class, that of the generalized insanities, can take on an acute form; the second class, that of the systematized insanities, is essentially chronic from the first. The distinction of the insanities into acute and chronic is the more important since the former only are curable; whence it follows, *a priori*, that only the generalized insanities are susceptible of being cured.

Beginning of Insanity.—Chronic insanity always begins in a slow and progressive manner. As to acute insanity, while it may in certain exceptional cases break out suddenly, it much more commonly appears by a series of gradual transitions. Whatever may be its progress and final form, insanity is generally preceded by a period of malaise or depression, more or less marked, which sometimes constitutes a veritable stage of melancholia.

Passage to the Chronic Condition.—The acute insanities may pass, after a time, into the chronic condition; dating from that instant they cease to be curable. The precise moment when an attack of mania or melancholia becomes chronic is very hard to determine, nevertheless, as a practical matter, it is of the first importance. The absence

of remissions of the disease, the persistence and uniformity of the delusive ideas, the change from acute excitement and melancholia into a sub-acute condition, certain earthy or bronze colorations of the skin, but more than all other signs, the return of strength and increase of flesh, which contrasts with the lack of improvement of the mental functions, and seems to indicate that the body, ceasing to be one with the mind, has now begun a life apart and independent, such are the indications that permit us generally to decide almost to a certainty.

Different Types of Evolution of Insanity.—Insanity may be continuous, as seen mostly in the acute and curable attacks, or remittent or intermittent, which is the usual type in the chronic, hereditary and curable forms. The remittent type is the most frequent one.

Remission.—A remission is an attenuation of the symptoms of the disease. It may occur either in the course of an attack, which takes on a special character from this fact, or at the end of an attack, as a signal of approaching recovery, or yet between two attacks which it connects by a sort of pathological transition. Remissions may be more or less pronounced, but to whatever degree they attain, they are only attenuation and not absolute cessation of the symptoms, which continue to exist to the same extent. It is this feature that differentiates remissions from lucid intervals or recovery.

INTERMISSIONS.—An intermission is a complete return to the normal condition occurring between two attacks of insanity. Such insanities characterized by intermissions with regular returns of the disorder are called intermittent. Of this kind are intermittent mania, certain varieties of double form insanity, etc.

LUCID INTERVALS.—A lucid interval is a temporary and complete suspension of the symptoms of insanity. It differs from a remission in that it is not a simple attenuation but a complete disappearance of the symptoms and from an intermission in that it merely interrupts, like a momentary gleam, the course of an attack.

All these peculiarities of the course of mental disorders, and which have been well elucidated by M. Doutrebente in a special memoir, have a considerable importance in a medico-legal point of view.

§ IV. DURATION.

DURATION OF SUBACUTE INSANITY, TRANSITORY INSANITY.—Insanity is a disease the evolution of which is rarely rapid. It is only in a few particular forms like acute delirium and transitory insanity that its duration is limited to but a few days. Generally it takes a more or less considerable period of time, even in acute cases.

DURATION OF ACUTE INSANITY.—It is very rarely that a recent acute case of mania lasts less than one

month; and the same is the case with acute melancholia. Ordinarily, the recovery takes place, if it occurs at all, between the second and the eleventh month.

Duration of Chronic Insanity.—The chronic and incurable forms of insanity are usually of very long duration. Certain manias, and, more especially, systematized insanities are, so to speak, interminable. It is not uncommon to find, in asylums, old cases of vesania, constantly deluded, living thirty or forty years, and even more.

§ V. TERMINATIONS.—COMPLICATIONS.

The three possible terminations of mental alienation are recovery, incurability, and death.

Recovery.—Recovery, which only occurs in acute cases, may take place in several different ways: (1) suddenly or instantaneously, which is not the rule, and is most frequent in intermittent insanities and hereditary forms; (2) by a series of gradual oscillations terminating in the return of reason; (3) by a gradual disappearance or diminution of the symptoms. These last two modes are rather frequent, and generally satisfactory.

Incurability.—Incurability may exist from the first, as in constitutional alienations, chronic generalized insanity, and systematized insanity, or secondary

or consecutive to the passage of acute insanity into the chronic state, as has been already indicated.

Death.—Death is sometimes the consequence of the mental disease itself, but this rarely occurs except in some superacute insanities like acute delirium, and in some other disorders, like general paralysis. More frequently it is the result of a complication or incidental disease.

Complications. Incidental Disorders. Crises. —Generally speaking, the mortality of the insane is higher than that of the population as a whole. An equilibrium is, however, more nearly re-established if we deduct from the number of the insane, the general paralytics, inevitably doomed to die within a short period. One very curious fact is the immunity, sometimes very marked, that is enjoyed by the chronic insane to atmospheric influences and accidental endemic or epidemic diseases, and this in spite of their frequent unconscious imprudences. Another peculiarity, equally striking, is the good effect that intercurrent disorders sometimes exert on the progress of the insanity, acting in this as a sort of derivation. This action, to which attention was called by Esquirol, goes by the name of *crisis*, and he goes so far as to say that there can be no effective cure of insanity but in this way. Finally, it is well recognized that, very often, intercurrent affections, and organic diseases generally, take on in the insane an oscillatory course, or even a latent form, so that

they may pass unperceived and only be recognized at the autopsy. The incidental disorders most common in the insane, apart from cerebral disorders, are those of the respiratory apparatus, typhoid fever, diarrhœa, disorders of menstruation, heart disease, uterine disorders, etc.

§ VI. PROGNOSIS.

The prognosis of insanity is one of the most important subjects of mental pathology. It is deduced from the characters of the disease and from certain particulars in regard to the patient himself.

Prognosis from the Character of the Disease.—Out of all forms of mental alienation or insanity only the generalized types, *i. e.*, mania and melancholia, are curable. The systematized insanities are essentially chronic, and recover only very exceptionally. A favorable prognosis is therefore limited to the generalized insanities, which frequently recover. Indeed, while we can count only about one cure to every eight or nine cases of insanity taken at random, this proportion changes to about one in three or even more if we exclude the incurable forms.

In a general way, the more acute the generalized insanity, the more favorable its prospects. Hence it follows that, of all forms, acute mania and melancholia are the most curable. It is claimed that in acute mania there are at least seven recoveries out of every ten cases. Of course it is understood, that the

hyperacute insanities must be excluded in this statement on account of febrile complications.

The less generalized and intense the mania or melancholia, the less is their chance of recovery. The more sudden the onset of the disorder and the quicker it reaches its greatest height, the better are the chances of recovery. And *vice versa*, the longer the period of incubation and the more lingering the progress, the more serious are the prospects.

Further, if the condition of excitement or depression remains stationary for a long period, the chances of cure will not be as good, as when glimmerings of reason and moments of calm occasionally occur. Also the appearance of improved nutrition, as already said, not coincident with a parallel improvement mentally, is a sign of bad augury. Finally the existence of hallucinations, particularly those of hearing, the creation of new words, the adoption by the patient of a pathological language, of a costume, of a special attitude, his tendency to collect things, to fill his pockets, to deck himself fantastically, are all indices of threatening incurability. It is not necessary to mention at length the disorders of menstruation, the menopause, and intercurrent diseases, whose action, although variable, may influence, in some instances, the course of the insanity.

The longer the disease continues it is evident it is the less curable. The chances are best within the first six months, during the second half year they are

twice as bad; in the second year the chances of cure diminish to about one-sixth of the figure for the first half year. After the fourth year they may be considered as almost *nil*, and the cases reported of more or less delayed recoveries are altogether exceptional and do not affect the rule.

The cause of the disease has also an influence on the prognosis. In general a single and accidental cause leaves good chances for recovery; multiple and permanent causes have an action directly opposite.

Prognosis Deduced from the Patient Himself.—The age of a patient is not a matter of no importance; the younger he is, as a rule, the better his chances. Sex has likewise some influence: women, indeed, recover more often than men, a fact due largely to the rarity in them of general paralysis. To make up for this, they are more often subject to relapses. The cause, however, inherent to the patient, which has the greatest influence on the prognosis, is, without question, the absence or existence of predisposition or heredity. Not that the subjects of heredity and the predisposed recover less readily, but because that in them the cure is seldom complete and permanent.

Relapses.—According to most authorities relapses will occur in the proportion of 12 or 14 to the 100, and are especially frequent within the first year. Apart from hereditary predisposition, relapses have their origin in the return of the same causes that pro-

duced the original disease, morbidly intense emotions, suffering, and, in needy patients, the difficulty of obtaining work after leaving the asylum. Usually it is the same form of insanity as before and sometimes with the same characters.

§ VII. PATHOLOGICAL ANATOMY.

Has insanity corresponding material lesions, or not? In order to answer this, it is necessary to first settle the limits of the question, and to exclude all the pathological conditions, such as alcoholism, general paralysis, neuroses, etc., into which insanity only enters as a complication.

1. Pathological Anatomy of Mental Alienation in General.—There remains mental alienation, properly speaking, comprising the constitutional and the functional alienation.

The constitutional alienations, congenital or acquired, *i. e.* idiocy, cretinism, imbecility, and dementia, are usually accompanied by manifest material alterations, affecting the whole person, but more especially the cranium and the nervous centres. To cite only the principal ones, we find, absence or weakness of an organ or a sense, vicious conformation of the cranium, facial asymmetry, flattening of the ears, arched structure of the palatine vault, prognathism, anomalies of the genital organs, impuberty and absence of hair, smallness of the brain, especially the absence or diminution of certain regions or convolu-

tions, softening in places, etc., etc. Here material lesions exist, frequently very gross ones.

Pathological Anatomy of Insanity.—The question is harder to answer in regard to the functional alienations or true insanities, and there are very diverse opinions on this point.

a.—*Acute Insanities.*—It appears certain that in the great majority of cases, the acute insanities leave no traces. All the more may we suppose that maniacal conditions, or those of excitement, correspond to a hyperæmia, and melancholic or depressed states to an ischæmia of certain regions of the brain. Yet these purely functional disorders usually disappear at the autopsy, so that they cannot always be verified. It is necessary also to remember that in very many cases, cerebral hyperæmia and ischæmia, or congestion and anæmia, are insufficient to produce insanity. We have therefore to admit that lesions are lacking, and the case reported by Esquirol is well known in which a patient in full tide of acute mania was killed by another patient by blows with a *sabot*, and the autopsy revealed no alteration.

Together with hyperæmias and sanguine stases, serous effusions are sometimes met with in acute insanity. It has even been proposed to make cerebral œdema the characteristic of one particular form of mental disease, melancholia with stupor. We find also occasionally minute hæmorrhages, some meningeal, some cortical.

b.—*Chronic Insanities.*—If the results of autopsies of acute insanity are generally negative, the case is different, at least usually, with chronic insanity.

Frequently this disease leaves its imprint on the exterior form of the brain. There is atrophy of some regions, flattening of the convolutions, especially anteriorly, lacunæ, loss of substance and filling of the space with a turbid liquid. We have noticed also irregularity of the first and second frontal convolutions, hypertrophy of the paracentral lobe, widening of the fissures, etc. The weight of the brain is nearly always diminished, and, contrary to the usual rule, the right hemisphere very often weighs more than the left.

Among circulatory disturbances we may meet with arterial atheroma, varicose condition and fatty degeneration of the capillaries, vascular alterations of the pia mater with injection of its network, minute apoplexies, varicose condition of the vessels, milky patches and thickening of the membranes, adhesions of the meninges to each other and to the cortex, hæmatomas of the dura, etc., etc.

Among cerebral lesions, properly so-called, we find especially degenerations of the cells and nerve fibres, sclerosis of the neuroglia and more or less proliferation of the same, vascular alterations of the opto-striate bodies, the pons, and the medulla, softening or sclerosis of certain nerve nuclei, etc., etc.

Chemically it is believed that the water in the brain is increased in the insane, and that fatty substances, on the other hand, are in less proportion. As regards phosphorus, the results are negative.

Chapter III.

SYMPTOMATIC ELEMENTS OF MENTAL ALIENATION.

Before undertaking the description of the various forms of mental alienation, it is necessary to first study its morbid elements, In order to do this satisfactorily, it must be borne in mind that insanity is not merely an intellectual disorder, but a disease affecting the whole being, and that consequently its constituent elements may exist together or separately both in the psychic and the somatic spheres.

Division of the Symptomatic Elements.—Bearing in mind the above, the fundamental division of the symptomatic elements of alienation seems to me to be based on the fact that some affect only the functions of the psycho-physique, while others involve its constitution. Hence, two very distinct groups of elements: (1) the functional or dynamic; (2) the organic or constitutional elements.

§ I. FUNCTIONAL ELEMENTS.

These elements resolve themselves into general disturbances or those of the general activity, and partial disturbances referable to the psychic and the physical activities.

1. Disorders of General Activity.

The general activity is the total of the systemic reactions under the influence of psychic impressions. It may be abnormal in two ways, either by excess or by default. In the first case there is *excitement*, in the second *depression*.

Excitement.—Excitement consists in the exaltation of the general activity, or functional reaction. When very intense and generalized, it reveals itself in a disordered activity of the intelligence, sensations, and acts that is absolutely uncontrollable. If less intense, it is limited to a simple exaggeration of the normal activity, and then affects more particularly the psychic or the motor sphere. It is the principal element of maniacal conditions, the varieties of which derive their characters from its degree of intensity and generalization.

Depression.—Depression is the opposite condition to excitement. It consists in a defect of expansion of the general activity, which ranges from simple concentration of the reaction of the organism to its complete suppression. It then translates itself externally by an absolute immobility or stupor. In a minor degree it may affect more particularly either the psychic or the somatic sphere. Like excitement it is characteristic of a special type of generalized insanity, the conditions of lypemania or melancholia.

2. Disorders in the Psychic Sphere.

The powerful elements of insanity in the psychic sphere are: (1) of the intellect; (2) of the emotions; (3) of the motor impulses.

Disorders of the Intellectual Type.

Of these we have to describe: *a*, delusive conceptions; *b*, hallucinations; *c*, illusions.

a.—Delusive Conceptions.

A delusive conception, or what amounts to the same thing, delirium, for delirium is nothing else in the individual than the sum total of his delirious conceptions, is very difficult to define. If, in certain cases, the delusive ideas are absurd or impossible, in other very numerous ones they have nothing in themselves absurd or incompatible with the natural order of things; they are only contrary to fact, and irrational in the mouth of the person uttering them. A man believes he has been changed into butter, it is a delusive conception and also an absurdity; another believes himself dishonored, ruined, condemned; this is an idea that involves no impossibility, and is only delusive in respect to him who believes it of himself. Leuret says truly: "I have sought both in Charenton, in the Bicêtre, and in the Salpêtrière, for the notions that appeared the most insane; then, when I have compared a number of these with what actually occurs, I have been

altogether surprised and almost ashamed at not perceiving the difference."

Delusive conceptions are not only difficult to define because they are far from being always absurd in themselves, but also because it is not always easy to distinguish them from error. The difference does not consist, as has been claimed, in that the delusive idea is not changed in spite of the accumulation of the most absolute proofs of its falsity. There are errors, indeed, that are held more tenaciously, perhaps, than delusions. The truth is, that there is not, properly speaking, any essential difference between the two, and that the delusion is separated from mere error only by its causes and consequences, which give it a pathological character never possessed by the other.

Delusive conceptions, and consequently the various delusions, are as numerous as there are modes of manifestation of human thought. Nevertheless the principal categories of delusions met with in insanity are the following (Ball and Ritti):

(1.) Delusions of satisfaction, of grandeur, of riches.

(2.) Delusions of humility, despair, ruin, culpability.

(3.) Delusions of persecution.

(4.) Hypochondriacal delusions.

(5.) Religious delusions.

(6.) Erotic delusions.

(7.) Delusions of bodily transformation.

The delusive idea, being only a symptomatic element of insanity cannot constitute it alone, and enters, only as a part, in its constitution. There are forms of insanity without delusions, such, for example, as those that have been called reasoning mania and impulsive insanity.

b.—Hallucinations.

DEFINITION.—"A man," says Esquirol, "who has a profound conviction of actually perceiving a sensation, when there is no external object to excite that sensation and it is not brought through any of his organs of sense, is in a state of hallucination." M. Ball abridges this definition by saying: "A hallucination is a sensation without an object." Thus an individual who hears voices when no sound strikes his ear has a hallucination. We may say also that an hallucination is an idea projected externally, an exteriorized perception.

DIVISION.—Hallucinations are designated according to the nature of the sensation perceived; there are therefore as many varieties of hallucinations as there are senses. In case of those senses that have a double and symmetrical organ, like hearing, sight, tact, the hallucinations may affect only the organ of one side: it is then unilateral. When, being double, the hallucination takes a different character in each of the two sides, it may then, it seems to us, be properly called *duplicated*.

There are hallucinations involving no particular sense organs, such cases, for example, as those in which the patients say that they converse soul to soul, without language of any sort. Such hallucinations in which the sensorial element is lacking have been designated by M. Baillarger, "psychic hallucinations," and by M. Séglas, "psycho-motor hallucinations.

NATURE.—The nature of hallucinations is not yet very well known. There are three theories: (1) the psychic theory, which makes them purely intellectual, the revival of an idea; (2) the physical theory that makes them a purely physical and organic phenomenon; and (3) the mixed, or psycho-sensorial theory, which admits in their production at once a sensory and a psychic element. It is the last of these that counts the most supporters.

The intervention of a physical element in the genesis of hallucinations is made beyond a doubt by the finding of various lesions in the sensory organs involved, in their nerves, in the thalami and the corpora striata, in sensory centres in the cortex; by the alteration, in unilateral hallucinations, of the peripheral or central portion of the sense organ of the affected side; and finally by experiments with provoked hallucinations in hysterical cases.

There is a constantly increasing tendency, at present, to locate the seat of hallucinations in the perceptive centres of the cerebral cortex. This is the view held by Tamburini, by Feré and Binet, by

Ballet, and by Séglas, who, in a recent memoir, divides hallucinations into psycho-sensorial and psycho-motor (verbal, visual and auditory), according as the sensory or the motor centres of the cortex are involved. A Russian physician, Dr. Kandinsky, who suffered from an attack of lypemania, analyzed in himself the mechanism of hallucinations, and also attributes them, conformably to Meynert's theory, to a subjective or automatic stimulation of the cortex of the anterior lobes of the brain.

Hallucinations without Insanity.—Like delusions, hallucinations are only symptomatic elements of insanity, and do not, by themselves alone, constitute it. Moreover, hallucinations may, in some cases, exist without insanity, and sane persons are subject, especially at the moments of passage between sleeping and waking, to hallucinations which they appreciate very sanely (hypnagogic hallucinations). Nevertheless these phenomena have been incorrectly called physiological hallucinations. A hallucination is always a morbid phenomenon; it is only its interpretation that can be either physiological or pathological.

Hallucinations occur in many forms of insanity, and it is not possible to separate a special type under the name of hallucinatory insanity. They are especially frequent in melancholia, persecutory insanity, toxic insanities, etc.

Hallucinations of Hearing.—Auditory hallucinations are most frequently met with in insanity.

They are a grave symptom, and may serve as a criterion to distinguish, in a general way, the dangerous lunatics. Every subject of auditory hallucinations is, it may be said, an essentially dangerous patient. They are frequently met with in melancholia, but are most frequent in insanity with delusions of persecution, in which form they are the characteristic symptom.

An auditory hallucination consists essentially in the perception of fictitious sounds. These may be confused and inarticulate; but they rarely continue thus; after lasting a short time the hallucination organizes itself, becomes articulate, and, to use the common expression of the patients, it becomes a voice.

These voices may be unknown to the patients as to sound and intonation, but are frequently recognized by them as belonging to their parents, friends, or such and such a person as they designate. They may also belong to imaginary persons, to the defunct, to God, the devil, the Virgin, the saints, etc. Animals and inanimate objects even are charged with conversing by patients.

The voices may say pleasant things to the patients, but more often the hallucinations have a distressing character, and consist in insults, reproaches, menaces, accusations, etc. Many patients, those with delusions of persecution more especially, complain that they have their thoughts repeated aloud, and mostly those they most desire to hide, and also that the most secret acts of their life are told.

This phenomenon bears the name of *echo of thought.*

The direction of the voices is very variable. They may come from above or below, from one side or the other, from before or behind, and even from the patient's body itself. In the last case they have sometimes the effect finally to give rise in the patient's mind to the idea that he is double, and thus originate that curious condition known as duplication of the personality. The distance from whence they come is also variable, and the hallucinated individuals are quite certain as to their distance, they estimate it sometimes as a metre or two, sometimes hundreds of kilometres.

The voices are so natural and the conviction of their existence is so irresistible, that very intelligent patients, physicians and alienists themselves, will not suffer a doubt, and have recourse, in explaining their existence, to all kinds of absurd and incredible interpretations; for example, to the intervention of various forces, electricity, acoustic tubes, the telephone, phonograph, etc., etc.

The language of the voices is usually the ordinary one, and the words those of the current vocabulary. Nevertheless they may be in a foreign or unknown tongue. The well-known case reported by Esquirol is in point, of an insane polyglot who heard them speak many languages, but become confused when they used one with which he was little acquainted. Ball has reported an analogous case. Finally the

voices may manufacture words, pronounce neologisms, which then pass into the speech of the patient, constituting gradually a new vocabulary. This is then a sign of chronicity. Hallucinations of hearing are often connected with other hallucinations.

The actively hallucinated patients, those who are always conversing with their voices, often have a peculiar physiognomy that is recognizable after some experience. The characteristic is the brightness of the eyes, wide open, fixed and brilliant, which can be best compared to the appearance of a man absorbed in thought who sees without taking notice. Moreover in following these patients one remarks that they are talking with imaginary personages. Thus they laugh at what they hear or reply to the voices, either aloud in more or less broken exclamations, or silently by simply moving their lips. Finally they are liable to do sudden, violent or dangerous actions caused by their hallucinations.

In closing the subject of auditory hallucinations, it is well to add that deafness is no obstacle to their production. On the contrary nearly all the insane who are deaf or hard of hearing, have auditory hallucinations. It may be the same with the other senses.

Hallucinations of Sight.—Visual hallucinations, less common than those of hearing, present analogous characters and hardly differ in that they constitute a less serious symptom, and that they are characteristic of certain special forms of insanity, such as the

toxic and neuropathic forms. Hallucinations of sight may consist in visions of persons and objects of the most varied character, landscapes, animals, phantoms, monsters, etc. They take on, in certain cases, a terrifying character.

HALLUCINATIONS OF SMELL AND TASTE.—The hallucinations of smell and taste are the most infrequent of all. They are met with especially in certain forms of melancholia, in hypochondria, sometimes also in the insanity of persecution; they frequently co-exist with a saburral condition of the digestive tracts, and ordinarily carry with them refusal of food. The patients may experience strange odors and tastes, such especially as those of arsenic, copper, sulphur, ammonia, rotten eggs, etc. Sometimes they fancy that they themselves give out frightful odors and condemn themselves under the influence of this idea to live alone apart from society.

HALLUCINATIONS OF GENERAL SENSIBILITY. GENITAL HALLUCINATIONS.—Hallucinations of general sensibility are rather frequent in insanity, especially with delusions of persecution. They consist in the sensation of shocks, electric commotions, of being lifted in the air, which the patients interpret according to their delusions. We may denominate certain hallucinations *genital* which cause all kinds of voluptuous or painful sensations in the genital organs.

c.—Illusions.

Definition.—Illusion is a morbid phenomenon rather common in insanity. It is not, like hallucinations, a perception without an object, but is an erroneous perception; it is, if a closer definition is required, the false interpretation of a perceived sensation. As has been stated, a person who hears a voice when none strikes his ear has an hallucination. If he hears the sound of a bell, for example, but fancies that it is an insult that is addressed to him, he has an illusion. Lasègue has very aptly pointed out this distinction between an illusion and a hallucination, in the following: An illusion is to a hallucination what innuendo is to calumny. The illusion is based on a truth which is embellished, the hallucination is a pure invention, there is no truth in it.

Characters. Division.—An illusion, still more than a hallucination, is a psychic phenomenon, since in it the sensory perceptions are altogether normal and it is only the intelligence that is in fault. As has been well said by M. Descourtis, in a memoir yet unpublished (Civrieux Prize, 1889, *Hallucinations of Hearing*), illusions are not errors of the senses; they simply constitute a form of delusion.

As regards prognosis, illusion is not so grave a symptom as hallucination. It is very common in the curable forms of insanity, especially in acute mania and intoxications.

Illusions, like hallucinations, are classed according to the special senses which are the point of departure of the phenomenon. Unlike hallucinations, illusions of sight are altogether the most frequent. They may be also unilateral.

Internal Illusions.—There is a special class of illusions which cannot be properly referred to any of the special senses, and which are known by the name of internal or coenæsthetic illusions. They consist in false interpretations of actual organic sensations. Thus, very frequently, affections of the intestines, the stomach, or the uterus, induce in patients, by the reactions they cause, ideas that they have animals in their bellies, that they have been violated, etc., etc. These internal illusions are especially frequent in the so-called sympathetic insanities.

Mental Illusions.—Another class of non-sensory illusions, very frequent in acute mania, is made up of illusions of persons, objects, surroundings, sometimes awakened by some vague resemblance, but more often by a simple association of ideas. These are purely mental illusions.

Scientifically, illusions are not clearly separated from hallucinations, and it is sometimes difficult to class the morbid phenomenon under one or the other of these. Clinically, however, the distinction is a necessary one and should be preserved.

There are other intellectual phenomena, such, for example, as the disorders of memory, of attention, of

the will, etc., that are very common in insanity, but these are not primary elements, they are complex phenomena, more often consecutive, and their description belongs more properly in works on psychology. They have been learnedly discussed by Theodore Ribot in his remarkable monographs.

Disorders of the Emotions.

Disorders in the sphere of the emotions are, so to speak, constant in mental disease and constitute a true moral insanity, corresponding with the intellectual disorder.

The insanity of the feelings and affections is not of itself more necessarily absurd than is that of ideas; its pathological character is derived entirely from the fact that it is not in accordance with the actual situation of the individual. There are as many insane types of feeling as there are modes of activity in the emotional nature of man. The principal aberrations met with, of this kind, in insanity are, apart from disorders of affections, strictly speaking, which are almost constantly encountered:

1. *Egoism*, which is often the fundamental character of the insanity.
2. *Pride*, which is observed especially in ambitious insanity.
3. *Malice*, *knavery*, *deceitfulness* and *falsity*, in reasoning mania.
4. *Rebelliousness*, *hatred* and *revenge*, in delusions of persecution.

5. *Generosity*, *philanthropy* and *prodigality*, in general paralysis with expansive delusions.

6. *Discouragement*, *weakness*, in intellectual and moral hypochondria.

7. *Humility*, *contrition*, *apprehensiveness*, *terror*, in melancholia and its various forms.

8. *Anxiety*, also in melancholia and in emotional neurasthenias.

The disordered feelings, which in their total form moral insanity, give to patients in each form of mental disease, a special character, that is too often overlooked in giving attention to the intellectual disturbances. There are certain forms, reasoning mania for example, in which the moral insanity alone exists, without any marked involvement of the intellect.

Motor Disorders.

In the psycho-motor sphere we have to do with disorders of the instincts and those of acts.

a.—Instinctive Insanity.

The different instincts often undergo changes in insanity, analogous to those of the intellect and the emotions.

These changes are extremely various. The most common are those involving the sexual instinct, and show themselves by all kinds of sexual depravity, such as sodomy, saphism, bestiality, voluntary mutilations, reversed sexual instinct (*conträre sexual Empfindung*); violations of cadavers, etc.

The instinct of self-preservation is likewise frequently impaired in insanity, and there are, it is well known, some patients who, without having a positive tendency to suicide, would not make a movement to protect themselves from imminent death. Such cases were recently observed in the burning of the asylum at Montreal in Canada (May 5, 1890).

b.—Insanity of Acts.

In the same way that disordered intellection and emotions constitute intellectual and emotional insanities, properly speaking, so disordered action in mental alienation constitutes the insanity of acts (*delire des actes*).

Among insane actions there are some that are absurd in themselves, others are not *per se* illogical, and are only so in that they do not fit the actual condition of the actor. All possible acts may therefore become morbid in special cases, so that insane acts are innumerable.

Those most frequently seen in insanity are :

1. Acts of impoliteness or impropriety, obscene exhibitions, tendencies to eat filth and excrements (skatophagia), which are met with especially in demented conditions.

2. Acts of violence, destructiveness, of sudden and blind fury, most special to maniacal conditions and epilepsy.

3. Refusal of food, suicide, almost peculiar to melancholia.

4. Homicide, especially frequent with delusions of persecution, epilepsy, etc.

5. Theft, incendiarism, in states of dementia, imbecile furor, epilepsy, etc.

As regards consequences, morbid acts resolve themselves into dangerous and non-dangerous.

As regards their nature they are distinguishable into reflex acts and irresistible or impulsive actions.

Impulsions.—A morbid impulse is an irresistible tendency to perform an action.

In the normal condition every sensation tends to translate itself with an action, but this tendency is restrained by the *ego*, which intervenes, perceives the sensation, analyzes it, and finally decides for or against the accomplishment of the act. The equilibrium between the tendency to the act and the restraining power of the *ego* (determinism), constitutes the normal condition in this point of view. The impulse results from a rupture of this equilibrium.

The equilibrium being lost, either by weakness of of the *ego*, or by an increase of the tendency to reflex action, or by both together, it follows that the impulse may be the consequence of one or other of these conditions, hence it occurs in those forms of alienation in which it is observed. Practically, it is especially in the emotional neurasthenia, the degenerative conditions, imbecility, dementia, (enfeeblement of the *ego*), acute mania, hallucinatory insanities (exaggerated reflex tendency), and, finally, in epilepsy (mixed state), that we meet with impul-

sions. Impulsions divide into besetting impulses (obsessions) and reflex impulses (impulsions, properly socalled), according as they act with or without resistance on the part of the individual. They may also be divided into intellectual, emotional, or motor impulsions, according to the sphere affected.

Motor impulsions, which are those generally referred to in the clinique when we speak of impulsions, are, further, designated by the morbid acts to which they give rise. Thus we speak of impulsion to theft (kleptomania), to incendiarism (pyromania), to drink (dipsomania), to murder, suicide, etc., etc. At one time there was a tendency to consider each form of impulsion as an insanity, a special monomania; now-a-days that is completely abandoned, and it is generally admitted that morbid impulse is only a symptomatic element of insanity, that may occur under different characters, in widely differing conditions.

3.—Physical Disorders.*

The symptomatic elements of insanity in the physical sphere may involve the nervous functions and those of vegetative life.

Disorders of the Nervous Functions.

The principal disorders of the nervous functions are those that affect sleep, sensibility and motility.

*In the preparation of this part of the chapter, much abridged in the first edition, I have utilized with especial profit the excellent *Manual de Semeiologie Psychiatrique* of Prof. Morselli of Turin, 1885.

a.—Sleep.

Sleep is one of the functions most constantly affected in insanity. In acute attacks, insomnia is one of the first symptoms to appear; it reveals itself particularly in agitation, dreams and nightmares. On the other hand, the return of sleep, at the end of an attack of mania or melancholia, is an excellent augury, and can pass for one of the most certain indices of approaching recovery, except always in those cases where this return, in connection with the re-establishment of the processes of assimilation, does not coincide with a parallel improvement of the mental condition. Insomnia is infrequent in chronic insanity, excepting in patients with hallucinations or coenæsthetic illusions.

The power of endurance of insomnia of the insane sometimes attains a surprising degree. We see them pass whole weeks without sleep whatever means are employed to produce it. This absolute and complete loss of sleep, which may depend upon a loss of the sense of fatigue, is generally a bad prognostic, since it is due to a profound alteration of the nervous centres.

The question arises whether the insane have dreams connected with their disorder. This, in itself probable, has been put beyond doubt by many observers.

Dreams have, moreover, very direct relations with insanity. Besides the hypnagogic hallucinations, already mentioned, occurring in the semi-wak-

ing condition, it is well known that both dreams and insanity take their source in the involuntary or automatic exercise of the cerebral functions. It has been demonstrated further that the delusions of insanity may follow the images of the dreams in such a way as to be at once their psychological and and chronologic continuations (Lasègue, Chaslin).

Finally there are observations that tend to show that dreams may sometimes be a precursory sign and reveal more or less in advance a coming disease, such as a neurosis or mental alienation.

b.—Sensibility.

The disorders of sensibility, by their importance and frequency, play a very important part in mental disease. We may divide them, for convenience of study, into disorders of special sensation (external sensations), and those of organic sensibility (internal sensations).

Special Sensation (external sensation).—The cutaneous sensibility may exhibit notable alteration in the insane. There is notwithstanding an important distinction to be made here. It is not usually the tactile sensibility, strictly speaking, that is modified, that which gives us notions of form, direction, consistence, position, and resistance of objects, that is commonly intact. What is impaired is the sensibility to physical agents, heat, pain, electricity, etc. These various sensibilities, which probably have their own special conductors, and whose alteration seems to be

located in the cerebral cortex, may be simultaneously or singly affected.

Cutaneous hyperæsthesia is rarer in insanity than anæsthesia. It may be encountered, nevertheless, in mania, and in toxic insanities, where it is often limited to certain parts of the body, but before all in the systematized insanities, where it often becomes the point of departure of tegumentary hallucinations that are designated under the name of disorders of general sensibility.

Anæsthesia, much more common, may be general or local, slight or pronounced. In the latter case there is almost complete insensibility of the whole external surface, as in certain forms of stupor. It may involve the tactile sensibility, but it is difficult to estimate it accurately in the insane, on account of the retardation of sensation which seems to be rather frequent in them. Ziehen has observed, in general paralytics, a lesion of memory of sensations, on account of which they cannot, after a few seconds, localize correctly any more the prick of a pin. This symptom, which, according to that authority, often is present from the beginning of the disorder, may be, in some cases, useful for diagnostic purposes. The more ordinary anæsthesia in the insane is that to temperature and pain (analgesia). Nothing is more surprising than the ease, one might say the indifference, with which the majority of the insane endure excessive cold, heat, burns, wounds, operations of all kinds; it seems as if they felt nothing. This

explains, at least in part, their desire to unclothe themselves, the resistance they oppose to diseases *a frigore*, and the stoicism they occasionally exhibit in the most frightful sufferings. In some the susceptibility to cold, which disappeared at the onset of the insanity, reappears at the moment of recovery. We encounter anæsthesia more especially in torpid melancholia, depressive general paralysis, the toxic insanities, the degenerations and conditions of mental weakness.

There are but few accurate data in regard to the electrical sensibility of the insane. It is known, however, that it may be increased or diminished, and that its alterations go most frequently *pari passu* with the tactile sensibility. In some cases, nevertheless, we find electrical hyperalgesia or, more often, analgesia without any corresponding modification of the local cutaneous sensibility. M. Séglas has recently observed, as a special symptom of lypemania, an increase of electrical resistance, that sometimes attains a high figure (70,000 ohms). This resistance is more marked in the stuporous than in the anxious form.

The magnetic sensibility (action of magnets) has been found exaggerated, as is well known, in hysteria, and, in a general way, in the neuropathies. In the insane, it seems proven that it is generally augmented, especially in melancholia. The same is the case with the metallic sensibility (metalloscopy).

The meteoric sensibility (action of cosmic and

telluric variations), which is very marked in the neuropathies, is still more so amongst the insane, mainly as regards the return of periodic attacks, and in epilepsy.

The special senses, independently of hallucinations and illusions already described, may undergo more or less pronounced changes in insanity.

The gustatory sense may be increased (hypergeusia), diminished (hypogeusia), or abolished (ageusia), principally in neuropathic and toxic insanity, melancholia with sitiophobia, and the organic and tabetic dementias. It may also be perverted (parageusia). This is what occurs in some melancholiacs and many hallucinated cases, who profess, for example, a great horror of meat and thus become vegetarians.

The olfactory sense is likewise found exalted (hyperosmia), diminished (hyposmia), or abolished (anosmia), in certain conditions of insanity, especially in hysteria, localized cerebral disease, paralytic dementia, systematized insanity, and, lastly, mania.

Not uncommonly the defect is localized in one nostril (hemianosmia), for example, in the beginning stage of general paralysis (Voisin). Finally, we encounter in nearly every form of insanity, perversions of the sense of smell (paraosmia) which often form the substratum of hallucinations and illusions of this sense.

As regards the sense of hearing, we find in many insane, either its exaltation (hyperacusia), dimi-

nution (hypoacusia) or its perversion (paracusia). Hysteria, ecstasy, the hypnotic condition, febrile delirium, and acute mania, are most frequently accompanied by acoustic hyperæsthesia; the depressive and stuporous melancholias and localized encephalitis rather give rise to its hypoæsthesia. Paracusia is characteristic of hallucinatory and congestive insanity, hypochondria, and neurasthenia.

The anomalies of visual sensibility are, of all, the most variable and most frequent in the insane. We observe optic hyperæsthesia (photopsia, chromopsia) in diffuse encephalitis and states of excitement; optic hypoæsthesia (amblyopia, hemiopia, diplopia) in the complicated or secondary forms of insanity, general paralysis, tabetic dementia, intoxications, hysteria, epilepsy, and neurasthenia; optic anæsthesia (blindness, amaurosis) in mania and general paralysis; optic paræsthesia (color blindness, Daltonism, nyctalopia, hemeralopia) in sensorial delirium, alcoholic insanity, systematized insanity, epilepsy, and hysteria.

The muscular sense and the reflexes are not, properly speaking, a part of the special sensibility, but their alterations in mental disease may, nevertheless, be mentioned here.

In the insane the muscular sense is usually exalted in excited states of mania, and it is doubtless owing to this, in great part, that certain patients are able to undergo continuous and intense exertions without feeling the least fatigue. On the other hand, the

muscular sense is always more or less diminished in states of depression or melancholia, and this explains the lack of action, the prolonged attitudes, and the cataleptiform immobility of some among them who seem to have changed to veritable statues.

With this hyperæsthesia and anæsthesia of the muscular sense we have also paræsthesia or perversion, which indicates a more or less profound disorder of the sentiment of personality. The patients believe their limbs or bodies are extraordinarily enlarged or diminished, are made of glass, wood, or metal, and therefore do not dare to move (acute hallucinatory conditions, katatonia, hebephrenic stupor).

The sense of equilibrium, which may be compared to the muscular sense, although its origin is more complex, presents two kinds of alterations in insanity. Sometimes these alterations are transitory and accidental epiphenomena of the organic nervous changes (insanity from cerebral traumatism, periencephalitis, tabes dorsalis, cerebral tumors and syphilis, chronic intoxication, and epilepsy); sometimes they form true symptoms of an exclusively psychic character, and reveal themselves either by the loss or anæsthesia of the sense of equilibrium (melancholia, stupor, hebephrenia, organic dementia, acute sensorial derangement), or by perversion or paræsthesia of the sense of orientation in space (hallucinatory insanity, melancholia with religious

or demoniacal delusions, secondary systematized insanity, general paralysis).

The reflexes have hardly been seriously studied up to the present time, excepting in general paralysis, and the results are so far contradictory. According to Bianchi, there is in the beginning an exaggeration, and, later, progressive diminution. According to Mickle, exaggeration is the rule in syphilitic general paralysis, as is diminution in the alcoholic form. According to Bettencourt-Rodriguez, the commencement of general paralysis is characterized by a diminution or abolition of the cutaneous reflexes and an exaggeration of the tendon reflexes, which combination forms a useful element in the diagnosis. Besides we frequently observe in general paralysis, as in tabes, the Argyll-Robertson symptom (sensibility of the pupil to accommodation and not to light) and Pitres' symptoms (diminution or absence of the testicular reflex).

Among the insane (properly so-called) it seems, according to the essays that have been attempted in this direction, that, in chronic insanity, all the reflexes, cutaneous, sensorial, and tendinous, remain usually normal, while they are diminished in depressive conditions and increased in states of excitement. We find also in certain cases, notably in melancholia cum stupore, the existence of paradoxal reflexes.

Organic Sensibility (internal sensations).—Organic sensibility includes all the sensations that,

conveyed by the centripetal nerves of each organ, transmit to the brain the impressions produced by their functional activity, their needs, and their condition of health or disease. It is this, as Morselli states, that gives us, in great part, the collective or synthetic feeling of organic individuality (coenæsthesis). In the normal condition the organic sensibility is reduced to rudimentary sensations that arise in the depth of unconsciousness. But these sensations may be exalted, disappear, or be perverted, and it is principally among the insane that we encounter these alterations.

Sometimes the patients think their organs cease their functions; it seems to them that something is lacking in their vital equilibrium, that they are unlike the rest of the world, and this is plainly the origin in them of the delusive conceptions that are so common in general paralysis, cerebral syphilis, tabetic insanity, neurasthenia, and melancholia, which cause them to say that they have no stomach, heart, mouth or arms, that their food does not go down, that they are choked, that they feel ill, that they are dead. I have many times found an absolute anæsthesia of the digestive tract in these cases, and œsophageal catheterism could be performed without producing the least reaction of any kind.

At other times, on the contrary, the sensations of the organic activity are increased. The patients feel then more lively and active; they experience a feeling of extraordinary well-being, the more intense

sometimes since it follows a condition of discomfort and depression. This is what occurs in the period of excitement in circular insanity, and especially in the period of functional exaltation of general paralysis, when the patients declare that "they never were better," just at the moment when the disorganization has taken possession of their whole system. We must recognize doubtless in this state of organic sensibility, if not the absolute cause, at least, the point of departure of those delusions of power, of vigor and force, seen in most cases of insanity of the exalted type, especially in the expansive form of general paralysis.

As to the sensations of organic wants, they may be increased, as in mania, or abolished, as in melancholia. This is particularly the case with the feelings of hunger and thirst, hence the anorexias and bulimias, the polydipsias and adipsias so common in the insane.

The perversions of the organic sensibility are yet more frequent and varied in the patients. They may develop in all parts of the body and from all the viscera, but their seat of predilection is the abdomen. Thus we hear of strange feelings (organs that shift about, animals in the stomach or belly, nocturnal outrages, sudden pregnancies, demon in the heart, etc., etc.) which give rise to the most extravagant delusions. These perversions are connected usually with functional or organic affections of the viscera, to which we shall return later on.

c.—Disorders of Motility.

All possible lesions of motility are observed in conditions of mental alienation. We will examine successively the anatomical condition of the muscles, the passive and active attitudes of the body, the contractility to mechanical stimulation, the electro-muscular contractility, the dynamometric and dynamographic mensuration, and finally the functional lesions, properly so-called.

The muscles are most frequently flaccid and relaxed, sometimes even atrophied, either from the effect of inertia (melancholia, stupor, dementia), or from disorder of the general nutrition (marasmus of paralysis, stupor and dementia), or, finally, from direct lesion of the nervous trophic centres (paralytic dementia).

The spontaneous attitudes in certain forms of psychoses are truly characteristic. Sometimes there is complete *abandon* with resolution of the whole muscular system, as if a patient had collapsed (general paralysis); sometimes there is a crouching together, as if he desired to occupy the least possible space (melancholiacs, hallucinated cases, dements); sometimes again, there is an absolute immobility, a complete default of reaction to stimulation and an inert indifference to surroundings (stupor).

Among the motor alterations, allied to voluntary attitudes we should notice the loss of equilibrium in the erect posture, the eyes being closed (Romberg's symptom), which is usual in tabetic dementia, and

is met with also in paralytic dementia. We can also observe, in certain delusional neurasthenias, astasia-abasia, noted by Charcot and his pupils among neuropathic cases.

The muscular contractility induced by mechanical or thermal agents is either increased (stuporous and cataleptiform melancholia, hypochondria, neurasthenia, mania), or diminished (simple melancholia, general paralysis, and dementia). Most commonly it remains normal.

The electro-muscular excitability is found habitually increased in mania, melancholia with coenæsthetic hallucinations, and simple lypemania. In the convulsive forms of insanity and also in general paralysis, we sometimes encounter the so-called reaction of convulsibility (Benedikt). On the contrary, the electro-muscular excitability is decreased, and at last abolished, in profound dementia and general paralysis accompanied with spinal symptoms. The reaction of exhaustion (Benedikt) is met with in many paralytics.

Besides these quantitative alterations of the electric excitability, there are also qualitative changes, but these are very variable and not yet well known. Melancholia with stupor may thus be accompanied with a partial degenerative reaction, consisting in the anode closing reaction occurring before that the cathode closing. Also in general paralysis the galvanic excitability is ordinarily more diminished than is the faradic. Finally in melancholiacs we

sometimes find a difference of excitability in the two sides of the body, and when convulsive phenomena occur, a tremulous contraction of the muscle during the passage of the galvanic current (interpolar hyperexcitability).

The force of contraction of the different muscular groups is not easily tested with the dynamometer in the insane and this method hardly serves to more than indicate the amount of volitional energy they possess (passive melancholia, stupor, apathetic dementia). The dynamograph is more useful; it shows that the curve varies in different mental affections according to the state of the motor centres and of the muscles (hemiplegic dementia, progressive general paralysis, alcoholic pseudo-general paralysis, neurasthenia, etc.).

Among the lesions of motility, properly so-called, observed in the insane we may mention : paralysis and paresis, general or partial (diffuse cerebro-spinal affections, general paralysis, hemiplegic dementia, epileptic insanity, acute febrile delirium, idiocy); spasms and cramps (hypochondria, acute mania, excited periods of circular insanity, spasmodic melancholia, hysteria, epilepsy), among which special mention should be made of the pharyngeal spasm of hydrophobic insanity and the grinding of the teeth in general paralytics; contractures, localized or involving all the members (idiocy, hysteria, paralytic and hemiplegic dementia); tremors and tremulousness, dependent either on a central lesion (paralytic

dementia, alcoholism, epilepsy), or upon a psychic condition (anxious melancholia, neurasthenia); ataxia or motor incoördination, which is observed in all forms of paralysis, alcoholic intoxication, etc., sometimes diffuse, sometimes localized; convulsions, general or partial, with more or less complete loss of consciousness (general paralysis, cerebral syphilis, alcoholic and saturnine intoxication, grave form of senile dementia), with which we should rank that extraordinary excitability of the nervous system not quite reaching convulsions, which goes under the name of convulsibility (acute mania, anxious melancholia, neurasthenic insanity); tetany of the muscles presenting a great analogy to convulsibility (stuporous melancholia); catalepsy and pseudo-catalepsy (hysterical insanity, melancholic ecstasy, stupidity, acute hallucinatory conditions), which are usually accompanied by a profound cutaneous and muscular anæsthesia; parakinesis, or abnormal distribution and transmission of motor impulsion, consisting in paradoxical contractures and rigidity to movement of the muscles (stupidity, katatonic melancholia, insanity of doubt or contact); psychic or imaginary paralysis, consisting in phenomena of motor inhibition (hysterical and hypochondriacal insanities, abulic neurasthenias); alteration of the tone and *timbre* of the voice, of the movements of writing, etc., which are seen in certain insanities with intense agitation (acute mania, anxious melancholia, general paralysis). According to Morselli, change of voice

is sometimes a prodromic symptom of chronic periencephalitis. The same may be the case with change of handwriting.

Disorders of the Vegetative Functions.

Following Morselli, we shall study successively under this head: the circulation, the respiration, nutrition and assimilation, the secretions, the temperature, and the trophic and vaso-motor functions.

a.—Circulation.

Affections of the heart are, in a general way, more frequent in the insane than in those of sound mind. According to Dr. Duncan Greenlees, the proportion of deaths from cardiac disease are 9.36 per cent. in the former, and 8.72 per cent. in the latter. Most frequently, the heart disorder antedated the insanity, and has played an important part in its production; in certain cases, nevertheless, it seems to be the consequence of excessive agitation, (mania, lypemania, epilepsy.)

Many of the insane present all the signs of a precocious atheromatous degeneration; in others we find atrophy, fatty degeneration of the heart or its spontaneous rupture. The disorder most commonly met with is, according to most authors, mitral insufficiency with hypertrophy of the left ventricle. Among functional disorders we find anæmic *bruits de souffle*, frequency, feebleness, and intermittence of the cardiac pulse.

En resumé, in a great number of the insane, 30 per cent. according to some authorities, 75 per cent. according to others, the useful action of the labor of the heart is diminished so that the amount of blood circulating in the organs is diminished, and its distribution altered.

The pulse does not offer in insanity any characteristic alteration of quantity and quality. In a general way, however, it is frequent and high in states of excitement, and slow and feeble in depressive conditions. But this is not an absolute rule since in many melancholiacs, and even in stupor, it may attain to 100 or 120 per minute. In the chronic forms the pulse is habitually normal, except in hallucinated cases and during periods of agitation. Rapid variations, dicrotism, and polycrotism are very frequent in the insane.

Wolf, who has made numerous sphygmographic researches on the pulse in different psychoses, lays stress on the fact that we meet more often than otherwise with the loss of the parallelism, which exists in the normal condition, between the curve of temperature and that of the oscillations of the pulse. Morselli claims, however, that the later investigations of Claus do not confirm Wolf's results. Sphygmography will be of especial value, according to Shaffer, in distinguishing the different periods of circular insanity.

Greenlees (*Jour. Ment. Sci., 1887*), draws from his sphygmographic observations the following

conclusions: In acute mania we find the nervous centres congested, the arterial walls relaxed, whence a diminution of arterial tension and dicrotic trace of the pulse. In the chronic form the trace approaches the normal.

In acute melancholia, feeble cardiac systole, incomplete filling of the arteries. In the chronic form the pulse recovers its force.

In general paralysis, pulse variable according to the period. In the first stage, systole energetic, arterial tension feeble. In the second, less energetic systole, arterial tension restored. In the third, systole feeble, but the complete tracing resembles that of the first stage.

In dements the tracing shows a torpid circulation due to a weakness of the vaso-motor system.

In imbeciles there is always increase of the arterial tension and of the systole.

b.—Respiration.

The examination of the respiration is much less significant in the insane than that of the circulation.

We encounter, nevertheless, chronic diseases of the chest, pulmonary phthisis, bronchial catarrh, emphysema.

In the maniacs the respiration exhibits nothing special as a rule, as regards its frequency. In the melancholiacs the respiratory movements are sometimes shallow and very frequent, sometimes slow and deep; we may also meet here the inverse type

of respiration, *i. e.*, the expiration longer than the inspiration. Marcé has observed in these patients an abnormal proportion between the number of inspiration and cardiac beats. This ratio, one to four normally, becomes less in melancholia when it may be only one to five or six pulsations.

In certain emotional conditions the thoracic movements may be made by jerks and recoveries and sometimes even with tremors and starts. In advanced general paralysis, especially during apoplectiform attacks, we see intermittent, remittent, and arhythmic respiration, as in the Cheyne-Stokes phenomenon.

c.—Nutrition and Assimilation.

The first thing to do, in judging of the state of nutrition of an individual, is to examine the ratio of weight to stature.

In the prodromic period of many insanities, before the mental disorders reveals itself even, the weight of the body is notably reduced. In agitated states and mania, there is a general lack of nutrition; in the apathetic forms, on the contrary, the patients may become obese. In the intermittent and circular insanities regular changes of body weight are often observed in each period of the attacks. In the marasmus of melancholia, mania, and general paralysis, emaciation is progressive and may reach an excessive degree. Finally at the decline of the acute attacks, the nutrition is re-established, and

this is a favorable symptom on condition it coincides with a parallel amelioration of the mental condition.

The disorders of the digestive tract are very common in mental alienation. We encounter particularly: cancer, ulcers, gastric dilatation, dyspepsia, gastritis, chronic peritonitis, duodenal catarrh, cancer of the rectum, displacement of the transverse colon, dysentery, enteritis; congestion and abscess of the liver, nephritis, interstitial and parenchymatous; vesical catarrh, cystitis, hypertrophy of the prostate, etc., etc.

The functional troubles are not less numerous and important. They are saburral conditions, fetor of the breath, regurgitation with pyrosis, vomiting, gastrorrhagias and enterorrhagias, intestinal colic, meteorism; tympanitis, constipation particularly, diarrhœa, and incontinence of urine and fæces. These symptoms may be observed in all forms of insanity, acute or chronic, simple or associated, but they are more special to melancholic conditions, where they are rarely lacking. It is to them that is due, in great part, the sitiophobia, or refusal of food, which is not to be confounded with lack of desire, though this accompanies it in many cases.

d.—Secretions.

The salivary secretion is most often altered by excess in mental diseases (ptyalism, sialorrhœa). The insane who present the symptom may be

divided, according to Reinhardt, into three groups: (1) The imbeciles, idiots, dements, and paralytics in whom the saliva is fluid and aqueous, (vaso-motor paralysis); (2) the cases of systematized insanity with delusions of poisoning and sitiophobia, in whom the saliva, at first very abundant and watery, becomes later thick and turbid from fragments of glandular epithelium (conscious reflection and morbid action of psychic centres); (3) cases of mania and circular insanity, and sexually excited insane, in whom the saliva is glassy, tenacious, whitish and viscous (local mechanical excitation or irritation of the great sympathetic).

In certain cases, as in acute delirium and delirium tremens, the discharge of saliva may become, so to speak, incessant.

The gastric secretion is almost always disordered in the dyspepsia and sitiophobia of the melancholiacs and delusional insane, in the polyphagia of mania and dementia, in the stomachal vertigoes of hypochondria and epilepsy, in the anorexia of alcoholism, in the gastric dilatation of neurasthenia, etc., etc.

In late years, chemical analysis of the gastric juice, obtained by the stomach tube during digestion, has led to the division of the dyspepsias into several categories: from excess of peptone; from dilution of the gastric juice; from hyperchlorhydria; from anachlorhydria; from fermentation (Alb. Robin). The same scientific methods have enabled Carl v. Noorden (1887) and Pachoud (1888) to demon-

strate that in melancholiacs there is generally acceleration of digestion and hyperacidity of the gastric juice, due almost exclusively to the presence of free hydrochloric acid.

There have not yet been as thorough investigations of the biliary secretion in the insane. We know, nevertheless, that there is an excess of bile in many cases (melancholia, chronic insanity, toxic insanity), and that it gives rise either to sub-acute attacks of jaundice, or to the more or less unrevealed formation of gall stones which we find in great numbers at the autopsy. The intestinal atony of certain lypemaniacs and delusional insane may also be connected with insufficient biliary secretion.

The perspiration is frequently altered in emotional conditions, as is well known, and in diseases of the spinal cord. This occurs also in the insane. Many have a dryness of the skin, hair bristly and dry owing to a lack of secretion (anidrosis); such are found among the melancholiacs, the stuporous cases, and general paralytics. Others, on the contrary, perspire abundantly (hyperidrosis), so that their skin becomes sometimes cold and œdematous (mania, emotional neurasthenia). The beginning of certain mental diseases is marked, in some cases, by the absence of perspiration, or, on the other hand, by the appearance of local or general sweating (general paralysis, hypochondriacal insanity). I have observed in some diathetic psychoses, especially in

arthritism, a very marked alternation between the mental condition and the secretion of sweat.

The nauseous odor of many of the insane, which has been compared to that of mice, depends, according to Morselli, upon the untidiness and the fetid breath of the patients, rather than upon any chemical modification of the cutaneous exhalations. There is, nevertheless, an increased acidity ordinarily accompanying the phases of agitation of cyclical insanity. Some idiots give out an odor like musk (Frigerio).

The sebaceous secretion has been scarcely studied in the insane. We know it, moreover, only very imperfectly in the normal conditions. M. Arnozan, according to some experiments made in conjunction with myself, has noted some peculiarities in the insane, without, however, attaining any precise data, as yet. After much research we have discovered, nevertheless, the existence of sebaceous matter, in general paralytics, in regions where it is not found habitually, for example, in the axilla.

The study of the blood finds its place either amongst the functions of nutrition or the trophic functions. We range it here because it is inseparable from that of the urine.

It has been observed that in most of the insane, either in the beginning or in the course of their disorder, the number of blood globules is notably diminished (melancholia, stupor, dementia), and that this hypoglobuly is especially marked in the females. It has also been observed, perhaps even

more frequently, that there is a diminution of the hæmoglobin of the blood (depressive and stuporous forms). In the maniacs, the composition of the blood approaches the normal. In no case are the proportions of the red and white globules altered.

In a recent memoir (*Jour. Ment. Sci.*, Oct., 1890), Dr. Johnson Smyth reports the results of numerous experiments made by him on the blood of the insane. We give their summary in the following table:

	Hæmoglobin.	Red Globules per cubic mm.	Specific gravity.
State of Health.....	93. per ct.	5,106,000	1.056
Melancholia	69.7 "	4,684,000	1.057
Epilepsy	62.8 "	4,520,800	1.059
General Paralysis.....	68.7 "	4,700,250	1.060
Secondary Dementia...	53.7 "	4,070,000	1.061

Whence it follows, very clearly, that in the insane, there is, in a general way, a decrease of hæmoglobin and the red globules of the blood, while, on the other hand, the specific weight of the fluid is augmented. It also appears that the morbid species in which these peculiarities are most marked are in decreasing order: secondary dementia, epilepsy, melancholia, and general paralysis. As to the ratio of white to red corpuscles, the author affirms that he has found no constant variation from the normal.

The most important of the secretions in the insane, as it is in the physiological condition, is that of the urine. It may be altered in insanity both as to quantity and quality.

In a qualitative point of view, the alterations consist in modifications of the physiological principles and introduction of pathological ones.

Urea, phosphates, and chlorides are found sometimes in excess (paralytics and maniacs), sometimes below the normal figure (melancholia, dementia).

As regards the elimination of phosphoric acid, it appears from the studies of Mendel and Mairet that in mania, lypemania, and excited periods of insanity, there is an increase of the phosphates, especially the earthy ones, in the urine, while in idiocy and dementia, in which the general nutrition is retarded, there is a decrease of these salts.

Dr. Johnson Smyth, in the memoir already cited, sums up as follows, the composition of the urine in the different forms of insanity:

	Amount of Urine per diem. in cubic cent.	Total of Solids per diem in grams.	Urea in grams.	Uric Acid in grams.	Creatinin in grams.	Chloride of Sodium in grams.	Phosphoric Acid in grams.
State of Health.....	1356.2	37.8	23.2	0.9	1.3	9.	1.2
Melancholia	1295.8	38.87	25.94	1.8			1.65
Epilepsy.....	1526.8	36.8	25.17	2.1			2.19
Secondary Dementia.	1408.0	34.8	20.	2.	2.9		0.69
General Paralysis ...	1578.0	47.0	26.0	3.1	3.3		1.6

From this table it appears: (1) That the quantity of urine excreted is above the normal in general paralysis and epilepsy, inferior in melancholia and secondary dementia; (2) that the total of solids is

greatly increased in general paralysis; (3) that the amount of urea is slightly in excess in the psychoses, except in dementia; (4) that the amount of uric acid is notably above the physiological average, first, in general paralysis, then in epilepsy and dementia; (5) that creatinine also is more abundant in general paralysis and dementia; (6) finally, that there seems to be a slight excess of phosphoric acid in epilepsy, but that this constituent differs very little from the normal in the other disorders.

Among the pathological elements of the urine, sugar and albumen are the ones chiefly to be sought for. Sugar may be found in varying proportion in diabetic insanity, acute delirium, delirium tremens, chronic alcoholism, epilepsy, general paralysis, at the beginning or after the congestive attacks.

Albumen, according to Kappen (1888), is especially frequent in insanity connected with chronic nephritis, or arterio-sclerosis, in acute delirium, general paralysis and epilepsy. It appears either in its usual form, or under the form of propeptone (hemialbumenose or paralbumen). In some cases of so-called Brightic insanity (Dieulafoy, Raymond,) the mental condition follows exactly the fluctuations of the uræmia.

Dr. Marro, (*Neurol. Centralbl., 1888*), claims to have constantly found peptonuria in twenty-one paralytic dements. The amount of peptone was sometimes minimal and required as much as 800 to 1,000 cubic centimetres of urine to give Hofmeister's re-

action. It was greatest in cases that followed an acute course or were complicated. This author goes so far as to affirm that the absence of peptone excludes the diagnosis of general paralysis.

The same author, (*Arch. de Freniatria, 1889,*) has found acetone in marked quantity in the urine of patients dying from acute delirium with terrifying hallucinations. He believes that the presence of this substance has to do with the existence of this kind of hallucinations.

We sometimes find also in the urine of the insane, cylinders, generally with albumen (acute conditions) mucus, pus, epithelial cells, leucocytes, and even blood (paralytic dementias). Finally, mention should be made, as of possible occurrence, of azoturia, uræmia, with its convulsive and delusive forms, ischuria, strangury from spasm of the neck of the bladder, or paralysis, retention and incontinence, conscious or unconscious (Féré).

e.—Temperature.

Insanity is almost always an apyretic disorder, which, in many cases, does not affect the equilibrium of the sources of animal heat and is not accompanied, save in special phases and in certain particular forms, with any reaction of the organism. For this reason, thermometric investigation has in it but a limited application.

The general temperature may be increased in acute cases of insanity, but only in the congestive

types (mania, epilepsy, general parslysis). The temperature is lowered, on the other hand, in the depressed or apathetic forms, in marasmus, and melancholia. We may meet with extraordinary elevations of temperature in certain stages of general paralysis. We also may encounter an irregular distribution of bodily heat in the peripheral parts (local asphyxias), but these are more of the order of vaso-motor troubles.

The cranio-cerebral temperature has been found increased in the exalted forms, and lowered in the depressive forms. There have even been noted notable differences between the two halves of the head and the different lobes of the brain. But it is not necessary to unreservedly accept these results.

f.—Trophic and Vaso-motor Functions.

The disorders of these functions are very important in psychiatry. We will notice among the trophic disorders:

(1) Alterations of the skin, either in the distribution of pigment, or abnormal pigmentations, or in the nutrition of the different tegumentary layers. Sometimes we encounter true dermatoses, such as eczema, zona, herpes, ichthyosis, phthiriasis, endemic myxœdema, at other times the skin exhibits the symptoms of a general intoxication of the organism, as in alcoholism and pellagra.

(2) Difficult cicatrization of wounds, eschars of wounds and bedsores, *mal perforant*, spontaneous

shedding of nails and teeth, othæmatoma, lesions due, for the most part, to peripheral neuritis.

(3) Fragility of the bones, trophic arthropathies, especially in the chondro-sternal articulations.

(4) Muscular atrophies and degenerations, which attain a very high degree of development in the paralytic forms of insanity, marasmus of dementia, and melancholic cachexia.

(5) Neuro-trophic keratitis, diminution of lachrymal secretion, and finally fatty degeneration of various organs.

Among vaso-motor disorders, we find in the insane vaso-motor paralysis of the limbs or of certain regions of the skin, causing cyanosis and œdema (stuporous and apathetic forms of melancholia, circular insanity (Ritti), dementia); so-called local asphyxias from spasmodic contraction of the capillaries; irregularities in the blood-supply of parts; subjective sensations of heat, cold, formication, shivering, angio-paralytic and angio-kinetic phenomena, localized, and, so to say, alternating (cyclic and periodic forms and *raptus melancholicus*). We may find also, under the influence of light mechanical or electrical irritations, partial persistent flushings, and sometimes also the symptom known by the name of the vaso-motor alphabet (dermography).

Finally, we may mention praecordial pain, so important in certain forms (melancholia, epilepsy, hypochondria, hysteria, alcoholism, neurasthenia), which is a sort of painful sense of constriction and gives

rise to delusive conceptions of the most widely differing kinds. It is rarely lacking in the initial melancholic stage of insanity.

g.—Appendix.

ACTION OF DISORDERS OF THE VEGETATIVE FUNCTIONS ON INSANITY: SYMPATHY.—THEORIES OF BOUCHARD.

It is evident, from the rather imperfect enumeration that has been made, that insanity is frequently connected with physical disorders and that none of the bodily organs escape these alterations. This is why, from all time, there has existed a tendency to consider certain mental diseases as the immediate or remote effect of a pathological change of the viscera, or the humors of the body. Hence the names, melancholia, hypochondria, phrenitis, derived from the supposed origins of the various known forms of insanity. Melancholia, indeed, has always been especially attributed to a functional or organic alteration of the abdominal organs, and Coelius Aurelianus wrote, in Roman times, "In melancholicis *stomachus*, in furiosis vero caput afficitur."

The theories advanced to explain this influence of the disordered viscera on the brain, are those that have accorded with the successive epochs and conditions. One of them, the most ancient, perhaps, since it dates from Hippocrates and Galen, is the theory of sympathy, which, in modified form, has survived to the present time.

It is to be stated, however, that the present time is a critical phase of this question and that the ancient idea of this morbid sympathy is giving way to a new conception, more in accord with modern scientific notions, that of *auto-intoxication.*

The admirable memoirs of Bouchard, on the disorders produced in the organism by the exaggerated formation or retention of normal poisons in the system, and in particular those which appear in the digestive canal and the urine, are well known. Admitting now the existence of the gastro-intestinal symptoms that accompany most acute forms of insanity, especially melancholia, and also admitting the good effects obtained by washing out the stomach, not merely on the melancholiac sitiophobia, but also on the lypemania itself, it is perfectly logical to assume that in many of these cases the insanity is the result of an auto-intoxication.

Some papers have already been published supporting this pathogenic view. I will cite especially, the communication of M. Bettencourt-Rodriguez, to the International Congress of Mental Medicine (1889), on "The influence of the phenomena of auto-intoxication and of dilatation of the stomach in the depressive and melancholic forms;" the thesis of Chardon, inspired by Prof. Lemoine, on "The influence of infectious diseases on the development of mental disorders" (Lille, 1889–90), and that of Feyal on "Constipation in the insane" (Lyons, 1890). I will mention finally the opening lecture

of my free course at Bordeaux (1889–90): "Insanity and the auto-intoxications;" and especially the excellent thesis of one of my pupils, Dr. Chevalier-Lavaure who, analyzing the toxic power of the urine of the acutely insane, according to Bouchard's method, has been able to demonstrate that, in these conditions and especially in mania, the urine loses a large proportion of its toxicity, undoubtedly from the morbid retention of normal poisons. While an average of 25 cubic centimetres of normal daily urine and 35 cubic centimetres of healthy night urine are required per kilogram to kill an animal, 60 cubic centimetres of maniacal day urine and 69 of night urine, are required to produce the same effect. In one case all the urine passed in a day was insufficient to destroy a rabbit experimented upon (*Des auto-intoxications, dans les maladies mentales.* Bordeaux, July, 1890). These results are comparable to those obtained by M. Féré, on the urine of epileptics, recognized as more toxic before than after a convulsive attack.

Attention has hardly been given to other than the auto-intoxications alone, in the insane, and especially those that have, for their point of departure, the digestive tract and its annexes. The theories of Bouchard, however, in regard to general disorders from retardation of nutrition seem to me equally applicable to the pathogeny of certain so-called diathetic forms of insanity, particularly those sometimes engendered by arthritism. This is the opinion

of Prof. Pierret (International Congress, 1889) and of M. Charpentier, who, besides general paralysis from congestion, admits the existence of another group of general paralyses from intoxication, in which he ranks those due to gout, diabetes, arthritism, and overalimentation (*Ann. Med. Psychol.*, Oct., 1890). For my part I have observed one very clear case of hereditary arthritic insanity with uric retention, anidrosis, and manifold trophic disorders, in which the insanity, incontestably due to the effects of retarded nutrition, constantly followed the oscillations of the diathetic intoxication.

It will be seen what a horizon is opened for the future in psychiatry by the theories and methods of the present day. We may, it is true, expect that the permissible limits of deduction will be soon passed, as is always the case, and that some adventurous spirits will go, doubtless, to the extent of making all insanity the result of the poisoning of the organism, of an intoxication. Some positive data however will be gained, and the discoveries of chemical biology, more fruitful in this direction than histology, will necessarily lead to some progress in the treatment of nervous diseases. We have already seen that experimental analysis of the gastric juice has enabled Van Noorden and Pachoud to determine the existence of gastric hyperchlorohydria, in melancholia and consequently to recommend the use of alkalies. A still more minute analysis of this liquid, according to recent methods (Gaston

Lyon: *L'Analyse du sue gastrique, sa technique, ses applications cliniques et thérapeutiques;* Thése de Paris, 1890), gives us without question the data for a rational treatment of melancholiac dyspepsias, or we may say the dyspeptic lypemanias, and, especially, for transforming the present lavage of the stomach into a rational therapeutic method, scientifically based upon the condition of the gastric juice and the organs of digestion. The same results will follow thorough study of the blood, and of the urine, and, in various degrees, that of other excretions, such as the perspiration, the saliva, and the sebaceous secretion. X (1)

§II. CONSTITUTIONAL OR ORGANIC ELEMENTS.

These elements are divided into the lesions of *organization* or of *evolution*, and lesions of disorganization or of involution, according as they attack the individual during the time of his development or after it has been completed.

Lesions of Organization.

The lesions of organization characterize more especially a group of mental diseases which we shall consider later under the name of degeneracies of evolution or vices of psychic organization. But we may encounter them, more or less isolated, in a large number of the insane. They consist in

deviations, excesses, or arrests of development, which involve not only the cerebral functions, but also all the apparatuses or organs of the economy. We will pass them rapidly in review under the denominations of psychical stigmata and physical stigmata.

a.—Psychic Stigmata.

The law that controls the teratological alterations of the intelligence is, in opposition to the normal, the discordance or defect of equilibrium. It follows that the essential characteristic of the psychic anomalies, is, before everything else, a lack of proportion between certain undeveloped faculties and others normal or in excess.

In the intellectual spheres, properly speaking, it is the higher faculties, the judgment, the mental consecutiveness, the attention, and the will, that are defective, while the other mental powers, on the other hand, such as memory, imagination, invention, the power of expression, or the various artistic aptitudes, may be very well developed.

In the moral or emotional sphere, the arrest of development affects particularly as a rule, the loftier sentiments and the higher affections, while, on the contrary, there is often a veritable hypertrophy of the passions and the lower feelings and instincts. The *ensemble* of this condition, as it appears in some degenerated cases, is commonly known under the name of absence of the moral sense.

b.—Physical Stigmata.

The stature is often abnormal in insanity, especially in the degeneracies and the monstrosities. We may meet with dwarfishness or with excessive stature, effeminacy, and various deformities of the spine and thorax.

In the limbs we may find paralyses, contractures, tics, hypertrophies, and partial or general atrophies. The extremities are sometimes characteristic; there may be syndactylism, polydactylism, club feet, flat-footedness, and what has been called the idiot hand (long and slender with defective development of the thumb).

The cranium exhibits numerous deformities. Its volume is generally above the normal. From a comparison of 475 skulls of the insane and 212 others, Seppilli obtained the following averages: insane males, 1,544 c. c., other males, 1,474 c. c.; insane females, 1,341 c. c., other females, 1,316 c. c. The form is very variable. Together with orthocephaly we encounter microcephaly, megalocephaly, brachycephaly, (eurycephaly and acrocephaly), dolichocephaly (scaphocephaly and plagiocephaly), and general or partial asymmetry. Next follow hypertrophy and atrophy of the walls, persistence of fontanelles and sutures or their premature ossification, exostoses, flattened spots, wormian bones, etc., etc.

The face also shows asymmetry, deformities of the palatine vault, which may be narrow, deep and

ogival, deviation of the nasal septum, prominence of the zygomas, protuberance of the frontal sinuses, fullness and separation of the orbital cavities, prognathism, simple or double, prominence and heaviness of the jaw, etc., etc.

Dr. Cuylitz claims that degeneracy is controlled by one law, *i. e.*, the vitiation of the proportions between diameters. This being so, anthropological science, as applied to the study of mental alienation, is especially a science of indices. According to him it matters little whether the brain has more expansion in one way or the other, or equally in all directions, *i. e.*, whether the individual be dolichocephalic, brachycephalic, or orthocephalic. The essential thing is that the organ is not hindered in its development by any isolated resistance, since, in that case, it undergoes a settling which shows itself externally by a deformity of the palatine vault.

"For a long time" says M. Cuylitz (unpublished communication) "it has been recognized that an ogival, narrow, and deep palatine vault is an index sign of mental inferiority. The phenomenon can be explained as follows: The brain tends to develop transversely, but, it meets in some cases a resistance in the parietal region which crowds it back. This pressure is transmitted by the zygomatic temporal and molar processes, pushes together the alveolar bodies of the superior maxillaries, like a workman's tongs, the separation of the main branches of which, that is of the parietals,

brings the ends together, the hinge being represented by the body of the sphenoid and the occipital. The bringing together of the alveolar bodies or the ogival palate, is therefore only the expression of a cerebral collapse, an abnormal effort which in the psychic life reveals itself by degeneracy. There is normally a proportion of one to three and a half between the distance from each other of the alveolar margins at the horizon of the last upper molars and the parietal or maximum transverse diameter of the skull. In the hereditary degenerate, and therefore mentally imperfect, the intermolar distance and the interparietal diameter, are as 1:4½ or 5, and in the idiot as even 1:6 or 6.8. This proportion or index is therefore, as regards the anthropology of the insane, of an extreme importance, which has not up to the present been recognized."

The alterations of the encephalon are very common in the insane. The meninges are frequently thickened, adherent to the cranial walls or to the cortex, contain osseous corpuscles, and scattered here and there deposits or cysts of serous matter.

In the brain we find general or partial hypertrophy or atrophy, absence of some convolutions or presence of supplementary ones, widening of grooves and fissures, and anomalies of different regions, particularly the psychomotor, the fissure of Sylvius, the calcarine fissure, the external perpendicular, the Rolandic and the frontal furrows.

As regards its weight, we find in the simple acute

insanity a brain larger than the normal, and in the chronic forms an atrophy, more or less pronounced, as is also the case in idocy and imbecility. Nothing, moreover, is more variable than the brain weight in the insane, not only in general, but also in the different forms. It may range in the pure insanities from 1,200 to 1,580 grams; in dementia, from 986 to 1,580 grams; in imbecility from 1,040 to 1,575 grams; and in idiocy from 566 to 1,710.

Many authors have remarked that, contrary to the normal rule, the right hemisphere often outweighs the left in the insane.

The cerebellum, pons, and cranial nerves present morphological changes much less frequently.

The lesions of the structure of the mass of the brain vary according to the disorder. We will only cite here, among the more frequent, hydrocephaly, porencephaly, induration or softening, sclerosis and degenerations of all kinds, affecting the vessels, the neuroglia, and the nervous elements.

On the part of the eyes and vision we note, blindness, myopia, hypermetropia, astigmatism, concentric contraction of the visual field, daltonism, hemeralopia, pigmentary retinitis, albinism, epicanthus, microphthalmia, exophthalmus, coloboma of the choroid and iris, chromatic asymmetry of the iris (*stigmata irien* of Féré), strabismus, nystagmus, ptosis, alterations of the papilla, deformities and inequality of the pupil, etc., etc.

The anomalies of the ears and hearing are quite

frequent and important, and they are justly considered as true stigmata of degeneracy. They have been specially studied of late years by Giacchi, Féré, Lannois, and Frigerio. Besides complete or unilateral deafness, which is sometimes hereditary, and otitis of every kind, we find in the insane, ears badly implanted, asymmetrical, enormous or rudimentary, flat, fleshy, pointed, (satyr ears of Schwalbe), widened (*en anse*) or flat against the skull. We find also partial deformities, absence of the tragus or antitragus, arrest of development or absence of the helix and antihelix, prolongation of the root of the helix, which, joining the antihelix, divides the concha into two parts, (Féré) the smoothing and rolling out of the pavilion, the adherence or absence of the lobule, (Morel's ear) the persistence of the tubercle of Darwin, the anomalies of the scaphoid fossette, which may be lacking, be single, double or triple, and continue itself in the lobule even independently of the inversion of the antitragus, etc., etc. According to Féré, the morphological alterations occur more commonly on the left side.

Frigerio, who has employed a special instrument in the anthropological study of the external ear (*Arch. d'Anthrop. Criminelle, 1888,*) notices further the following peculiarities: (1) The auricular temporal angle (*écartement de l' oreille*), which is under 90 degrees in sane individuals, and only reaches this figure in 20 out of 100, tends to increase in the insane individuals, where we find 39 per 100 with it 90 de-

grees, and in criminals in whom it is found in 55 out of a hundred, and in apes where the angle is generally over 100 degrees. (2) The average index of the concha for the two ears is greater in the insane than in the normal individual, while that of the pavilion is inferior. Nevertheless, in the insane, the concha is more developed than the pavilion, especially in the transverse sense.

In the mouth and teeth we find: congenital division of the palate, of the uvula, hare lip, megaloglossus, persistence of first dentition, absence or duplication of certain teeth, their smallness (microdentism) or their exaggeration (*geantism*), tubercles, notches, caries, anomalies of direction, especially of canines and incisors, the presence of grooves, deformities of the dental arch, etc., etc. (Bourneville and Sollier).

In the genital organs, likewise well studied by Bourneville and Sollier, (1888), we find in males: hernia, rudimentary condition or exaggerated size of the penis, club shaped penis, phymosis, epispadias, hypospadias with three varieties, balanic, pelvic and scrotal, anorchidia, monorchidia, cryptorchidia, atrophy and asymmetry of the testicles, varicocele, scarcity or absence of spermatozoa, impuberty, gynecomastia (Emile Laurent). In the female, narrowness, imperforation or transverse or longitudinal partition of the vagina, absence of the ovaries and tubes, especially of one side, uterus bicornis, polymastia, amenorrhœa, etc.

As regards the skin, we will confine ourselves to mentioning albinism, vitiligo, pigmentary nævi, erectile nævi, ichthyosis, myxœdema, scarcity or abundance of hair, beard or mustache in women, tufts of hair, and double vortex, trace of anomalous development of the cephalic extremity of the vertebral canal (Féré).

Finally, we note, as to the larynx and voice, the hypertrophy or absence of the thyroid body, mutism, persistence of the infantile voice, and of various vices of pronunciation, stammering, repetition or convulsive suspension of certain syllables, stuttering, thickness of speech, *zezaiement* (giving g or j the sound of z).

Lesions of Disorganization.

Lesions of disorganization are especially characteristic of a group of mental disorders that we shall study later or under the name of degeneracies of involution or psychic disorganizations. They consist essentially in acquired infirmities, *i. e.*, in the decay of the psycho-physical being, and, like the lesions of organization, they may affect not only the cerebral functions but all the apparatus and organs of the economy.

It seems needless to enter into detail and enumerate here these lesions, as they are all noticed under special pathology. It may be said merely, that those most frequently met with in the psychic sphere are: weakness of memory for recent events, ideas, and

words (intellectual and verbal amnesia), loss of voluntary attention (*polyideisme*), obnubilation of affections, feelings, habits of education, etc., etc., with more or less marked persistence of automatic intelligence and instincts.

In the physical organization the decay may involve all parts. It affects especially the nervous centres, the muscular functions, the organs of sense, the genital instinct, and the excretions.

Chapter III.

CLASSIFICATION.

The importance of classification in any science whatever is self-evident. In mental pathology it is an absolutely essential guide.

It has therefore been attempted by a great number of authors, from ancient times to the present, and apropos to this it has been maliciously remarked by Buchez, "When they think they have finished their studies, the rhetoricians construct a tragedy and the alienists a classification."

All classifications proposed up to the present may be classed under four chief heads: (1) psychological classification, based on the nature of the intellectual disorders (Ex. Hammond's, of New York); (2) symptomatic, based upon the outward manifestations of the disease (Ex. Esquirol, Marcé): (3) pathogenic or etiological, based on the causes and origin of development of the insanity (Ex. Morel); (4) anatomical, based on the character of the lesions (Ex. Voisin, Luys).

The majority of classifications are mixed rather than truly systematic, that is to say, they are constructed at once on several of the lines above enumerated.

I will confine myself here to reproducing simply

and without comment, the classifications of MM. Baillarger, Ball, and Magnan for France: that of Hack-Tuke and Bucknill in England, and that of Krafft-Ebing in Germany, and finally the nomenclature adopted by the International Congress of Mental Medicine (1889) from the report of M. Morel of Gand, and which is merely designed to furnish alienists of all countries with a series of denominations or rubrics under which they can hereafter arrange their clinical cases so as to make them readily comparable.

Classification of M. Baillarger.

The Insanities. *Functional Perversions.*		The Dementias. *Functional Abolitions.*
I.—*Insanities.*		
I. *Pure Insanities.* Such as, when not cured, terminate most frequently in simple dementia.	Partial insanity. Mania. Melancholia. Double form.	
II. *Paralytic Insanities.* Such as, when not cured, terminate most frequently in paralytic dementia.	Ambitious mania. Hypochondriacal melancholia.	
III. *Intermittent Insanity*.....	Simple intermittent insanity. Insanity with alternating forms.	
IV. *Circular Insanities*.....	Continuous double form insanity.	
V. *Insanities of Toxic Origin*....	Alcoholic insanity. Pellagrous insanity. Insanity of malarial origin.	
VI. *Insanities associated with various neuroses*.....	Epileptic insanity. Hysterical insanity.	
II.—*Dementias.*		
I. General Paralysis (*démence paralytique*).		
II. Senile Dementia.		
III. Dementia, symptomatic of various circumscribed cerebral disorders.		
IV. Dementia following vesanias.		
III.—*Arrests of Development.*		
Idiocy, Imbecility, Mental Debility, Cretinism.		

Classification of Professor Ball.

Insanities.

1. *Vesanic* or essential (without lesion). Types: Circular insanity, systematized insanity.
2. *Neuropathic* — Hysterical. Epileptic. Choreic, etc.
3. *Diathetic* — Gouty. Rheumatic. Tuberculous. Cancerous. Anæmic, etc.
4. *Sympathetic* — Genital. Cardiac. Gastro-intestinal. Pulmonary, etc.
5. *Toxic* — Alcoholic. Saturnine. Morphine, etc.
6. *Organic or cerebro-spinal* — General paralysis. Aphasia. Acute delirium. Hemiplegic dementia, etc.
7. *Congenital or morphological* — Idiocy. Imbecility. Cretinism.

Classification of M. Magnan.

I.—*Mixed States*, both pathological and mental.

General paralysis.

Senile dementia (cerebral atheroma).

Circumscribed cerebral lesions, aphasia for example, — Softening. Hemorrhage. Tumors, etc.

Hysteria.

Epilepsy.

Alcoholism and intoxication — Absinthe. Morphine and opium. Verdigris. Ergot. Lead, etc.

II.—*Insanities properly so-called. Psychoses.*

Mania. Melancholia — Simple elements.

Chronic Insanity — Incubation. Persecution. Ambition. Dementia.

Intermittent Insanity ..... { Simple. / Circular. / Double form. / Alternate.

Insanity of degenerates, with episodic syndromes, and the *delires d'emblee* (primary).

Idiots, imbeciles, weaklings, ill-balanced individuals.

Classification of Hack Tuke.

I.—*Protopathic Insanity.*

Idiocy.
Hemiplegic dementia.
General paralysis.
Epileptic insanity.
Senile and idio-functional insanities.

II.—*Deuteropathic Insanity.*

Insanity of puberty.
Uterine insanity.
Climacteric insanity.
Puerperal insanity.
Rheumatismal insanity.
Syphilitic insanity.

III.—*Toxic Insanity.*

Alcoholism.
Pellagrous insanity, etc.

Classification of Krafft-Ebing.

A.—Psychic Affections of the Normally Developed Brain.

I.—*Psycho-neuroses.*

1. Primary curable conditions..... { Melancholia { Simple melancholia. / Melancholia with stupor. / Mania..... { Maniacal exaltation. / Acute mania. / Stupor or curable dementia. / "Wahnsinn" vesania, properly so-called, apart from mania and melancholia.
2. Secondary insanity (Verrücktheit).
3. Dementia (terminal) (with agitation or with aphasia).

II.—*Psychic Degeneracies.*

1. Reasoning insanity.
2. Moral insanity.
3. Primitive insanity (*primäre Verrücktheit*) ..... { With delusions of persecution. / With erotic or religious delusions.
4. Obsessions.
5. Insanity due to constitutional neuroses..... { Epileptic insanity. / Hysterical insanity. / Hypochondriacal insanity. / Periodical insanity.

III.—*Cerebral Disorders with predominant mental troubles.*

1. Paralytic dementia.
2. Cerebral syphilis.
3. Chronic alcoholism.
4. Senile dementia.
5. Acute delirium.

B.—Arrests of Development.

Idiocy.
Cretinism.

INTERNATIONAL NOMENCLATURE.

Adopted by the Congress of Paris (1889).

1. Mania (acute delirium).
2. Melancholia.
3. Periodical insanity (circular insanity, etc.)
4. Progressive systematized insanity.
5. Vesanic dementia.
6. Organic dementia.
7. Paralytic insanity.
8. Neurotic insanity (hypochondria, hysteria, epilepsy, etc.)
9. Toxic insanity.
10. Moral and impulsive insanity.
11. Idiocy.

I come now to my own classification, which is the same, except for successive variations produced by the progress of the times, as the methodic arrangement I have many times reported, and especially in the earlier edition of this work.

In constructing it I aimed at two principal ends: (1) to group the morbid forms according to their most important nosological characters, in such a way as to obtain rational and methodical divisions; (2) to retain only the absolutely primary forms, and to rank apart those secondary states that encumber most classifications, so as to have the classification at once simple and complete.

First, I will state how I proceed to obtain the first of these results.

I.

The intelligence, considered as a biological entity, presents itself to us under two aspects: (1) its *constitution*, that is to say, its composition, its intimate structure; (2) its functions, that is, its life properly speaking, its mode of action. In other words, we may consider in it, as with all the great vital apparatuses, the organ and the function. But the diseases of the intelligence differ essentially according as the lesion involves one or the other of these elements, and it is in this, in my judgment, that is to be found the fundamental division of conditions of mental disease.

We will divide, therefore, these states into two great classes: (1) functional or dynamic alienations (vesanias, insanities, psychoses); and (2) constitutional or organic alienations (degeneracies, deviations, mental infirmities). The first represent, so

to speak, the diseases of quality, the second those of quantity of the intelligence.

This first landmark fixed, we pursue our study with this dichotomous division of these two classes of mental alienation.

Insanity, as follows from what has been said, is a state of mental alienation characterized especially by a functional alteration of the intelligence. But this disease is not a single one: it forms a class including many distinct groups which it is important to specify.

From all time it has been customary to divide insanities into general and partial according to the greater or less extension of the delirium. Thus we have general mental aberrations (mania, melancholia) and partial ones (monomanias). This is, moreover, the basis of the well known classification of Esquirol. The idea was certainly good, but its application is bad, since mental aberration is not insanity, it is only one of its elements, and the terms general deliriums, partial deliriums, do not correspond to the terms general and partial insanity. Moreover, these are genuine insanities without mental aberration, and it is not uncommon to see generalized insanities with only a partial delirium and, inversely, partial insanities presenting very extensive delusions (megalomania).

It is not, therefore, the degree of extension of the mental aberration that should serve as a basis for the division of insanities into general and partial; this

basis is better sought in the principal characters of the insanity itself.

What are these characters?

In a biological point of view, the insane fall into two very distinct classes. In the one, the whole being takes part in the disorder by reason of the permanent reaction of the mental trouble on the whole organism: there is, we say, a lesion of general activity. In the others, the disorder remains limited to the psychic sphere, without seriously modifying ordinary vital phenomena, which continue in a regular and, as it were, an independent manner: the general activity is unaffected.

It is from this point of view that we can, in my opinion, consider insanity as general or partial: we would not call it *complete* and *incomplete*—insanity is always complete and irreducible so far as it is a disease—but rather generalized from involvement of the whole being, or, on the contrary, specialized to the intellectual sphere, its proper domain.

I retain therefore as primary divisions of conditions of mental disease: (1) generalized insanities; (2) partial insanities.

Generalized Insanity.—It follows from what has been said that the generalized insanities are those in which the general activity, which we have considered as the total of the reactions of the organism under the influence of psychic impressions, is found to be altered. But this alteration may take place, as we have stated, in two ways: by excess or

by default. In the first case there is excitation; in the second, depression.

This excitation and this depression, which constitute the two modes of alteration of the general activity, characterize also very correctly the two kinds of generalized insanity, which are: (1) mania (generalized insanity with excitement); (2) melancholia or lypemania (generalized insanity with depression). Most authorities admit a third species, which may be considered as the union of the two preceding ones: (3) insanity of double form or alternating insanity (generalized insanity with successive excitement and depression).*

In closing the subject of generalized insanities I will state that the two species mania and melancholia subdivide into a number of parallel or corresponding varieties. We have according to the intensity of the disease; (1) maniacal excitation or subacute mania, which has its pendant in melancholic depres-

*Other authorities consider insanity of double form, and, in a general way, all the periodical insanities, not as morbid entities, but simply as manifestations of the mental condition in degenerative cases. This opinion does not seem to have yet sufficient basis in the present state of our knowledge, to authorize its acceptance in my classification. Whenever it prevails, that is to say, when it is proven that the element of degeneracy predominates in the so-called double form insanity and in the other periodical insanities, it will be easy to take them from the group of generalized insanities and to put them in the degenerative phrenopathies (Table V of classification).

sion or subacute melancholia; (2) acute mania or typical mania, corresponding to acute, or typical melancholia; (3) acute delirium, or superacute mania, which is the extreme form, often febrile and mortal, of mania, like melancholia with stupor or superacute melancholia, the highest development, hardly less grave, of melancholia. In the point of view of progress, we have also as special types, (4) chronic mania and melancholia; and (5) remittent and intermittent mania and melancholia.

As to insanity of double form, the attacks of which consist essentially in a period of excitement or mania and one of depression or melancholia, it includes only two species: (1) the continued insanity of double form, or circular insanity, in which the attacks follow each other without interruption; and (2) insanity of double form with separate or intermittent attacks, in which the attacks are separated by a longer or shorter lucid interval.

We come now to the division of the partial insanities.

Partial Insanities.—The theory of partial mental aberration or monomanias has had for a long time a bad influence on the progress of mental medicine. Starting from the principle that all insanities, all the aberrations, all abnormal tendencies, however isolated, represent distinct entities, we have come to admit as many partial insanities or monomanias as there are morbid manifestations in the spheres of ideation, feeling, or acts. Hence the

division of monomanias into intellectual, moral or reasoning, and impulsive or instructive. Hence also a regular invasion of so-called special insanities into the nosological lists. Ambitious delusions become megalomania; religious delusions, theomania; erotic insanity, erotomania; impulse to theft, kleptomania; impulse to drink, dipsomania, etc., etc. The field of monomanias is unlimited and the discoveries painfully acquired in the past, are threatened with being swept away by this torrent of new diseases. Falret, Sr., was the first to lift his voice against this evil tendency which was likewise combated by his successors, and to-day, thanks especially to the labors of Magnan, Morel, and many other French and foreign alienists, the great majority of the monomanias, and, in particular, the reasoning and impulsive monomanias, have been relegated to their proper place and are considered as only more or less striking episodes of the condition of degeneracy. There only remain, under the name, itself inexact, of partial insanities, a few of the old intellectual monomanias: hypochondriacal insanity, persecutory insanity, ambitious, religious, erotic, insanities, etc. Further, some of these insanities have been subjected to a synthesis that combines them, in an evolutionary point of view, under the same pathological formula.

According to many authorities, the partial insanities recognized at the present time may be comprehended in a single general type which, in its

normal form, presents a typical evolution in three periods: (1) a period of subjective analysis, (hypochondriacal insanity); (2) a period of delusional interpretation (persecutory, religious, erotic, jealous, insanities); (3) a period of transformation of the personality (ambitious delusions). We will call it, on these grounds, *systematized progressive insanity.** (Chronic delirium. Primary systematized insanity. Paranoia primaria. Primäre Verrücktheit.)

Such is the division of the functional alienations or insanities that appears to me most rational and most in accordance with clinical teachings. We must now take up the constitutional alienations, *i. e.*, the degeneracies, deviations, and mental infirmities.

Constitutional Alienations or Degeneracies.

The second class of states of mental alienations comprises, as has been said, the constitutional insanities or degeneracies. They represent the alterations of the intelligence, in an organic and, so to say, quantitative point of view.

The intellect, however, from this point of view, can be injured in only two ways: either it was affected in the time of its evolution, experiencing

*To those who do not admit this theoretic conception, partial insanity is not a disease of periods or stages, but one of varieties. The simple substitution of the word "variety" for the word "stage" in our synoptical table will therefore answer all their requirements.

then a deviation or arrest of development; or, having attained its complete development, it has undergone a regressive evolution or process of decay. There are, therefore, two groups of constitutional alienations: (1) degeneracies of evolution or vices of psychic organization; (2) degeneracies of involution, or psychic disorganizations. We will study these groups in detail.

Degeneracies of Evolution (Vices of Organization).—Vices of psychic organization are composed of anomalies and malformations of the intelligence, altogether comparable to bodily anomalies and malformations, with which they frequently coexist, being, like them, the habitual product of hereditary degeneracy.

These anomalies and malformations are, it is true, infinitely variable, and thus elude any rigorous subdivision; but, viewed in their total, they exhibit, none the less, a progressive scale of mental deficiencies, susceptible of being classed according to an ascending scale of gravity.

At the first step of the ladder, imperfectly separated from the normal by undecisive limits, like everything appertaining to this neutral or borderland zone, we find the defects of cerebral equilibrium which have for their basis a lack of unity in the psychic organization, and for a predominant character, a morbid instability. These are indeed not yet actual diseases; but they are already deviations of structure, anomalies of origin, that, as such, deserve to be

ranked at the threshold of the constitutional alienations, under the general title of *disharmonies*.

At the highest degree we encounter the mental infirmities, properly so called, which reveal themselves by arrests of development and profound lacunæ of the intelligence, most commonly associated with analogous physical lesions forming thus the most serious morphological alterations compatible with life. We designate these under the name of *monstrosities*.

Between these two conditions, marking the extreme limits of cerebral anomalies, exist a crowd of intermediate states in which the vice of organization is usually connected with neuro- and psychopathic disorders of the most varied kinds. Hence the morbid syndromes of dubious identity, classed by some in the neuroses and monomanias, and considered by others under the names of the mental states of the *hereditaires*, episodic syndromes or psychic stigmata of heredity, insanity of the *hereditaires*, or degenerates, primary and degenerative paranoia, etc., as veritable degeneracies in which the ground defect is the chief element, the neuropathic or phrenopathic element being an accessory and purely episodic element. This view, which conforms best with the general results of clinical observation, seems the best to adopt in the present state of our knowledge, recognizing, nevertheless, that in certain cases the same neuropathic and phrenopathic disorders may occur without any heredity or degeneracy, properly speaking. We admit,

therefore, with certain reservations, in the constitutional alienations, two intermediate genera, the *neurasthenias* and the *phrenasthenias*, according to the nature of the syndrome present.

We have therefore the four following genera, in the order of their gravity: (1) the disharmonies, (2) the neurasthenias, (3) the phrenasthenias; and (4) the monstrosities.

These four genera include in their turn many species and clinical varieties.

In the first, we can admit as common types of disharmonies with their diverse individual physiognomies: *lack of balance*, *originality* or *singularity*, and *eccentricity*.

In the second the varieties are much more numerous, at least in appearance. It is easy to see, indeed, from the table of M. Magnan, how the cerebral neurasthenias have so recently become so important. There are still many other forms possible to be met with, since it is sufficient to create a new species, to simply take the predominant tendency or idea in a neurasthenic, to give it a name and attach to it the termination "phobia" or "mania," according to the case. This is, in fact, what has been done as regards the most of those already made. Instead of following this cult of the infinitely little, that can have no other result than to mislead and uselessly complicate the study of psychic degeneracies already sufficiently difficult, I think it better, for my part, to attempt to point out, in an accessible order, the specific types

around which all possible varieties and sub-varieties can gradually be arranged.

But in studying closely what we have called the neurasthenias of degeneracy, it is seen that they are clinically species of hysteriform conditions, with paroxysmal crises sometimes preceded by auras, which are based on a lesion of the will or, to speak physiologically, a tendency, more or less pronounced, to reflex acts by excitation or inhibition. We should search then for the principle of their division, and, proceeding thus, we have only to extend to the total of these conditions, that which Magnan, Morselli, and Ribot have attempted to do for some of them. In doing this, we find that the lesion of the will in the neurasthenias may present itself under three aspects, constituting, so to speak, three successive degrees. In one the morbid suggestions remain localized, in the perceptive sphere. An idea or group of ideas, generally under the form of interrogations, or metaphysical apprehensions, imposes itself upon an individual who is forced to painfully chase them away or resolve them. It is a species of "psychological rumination" as remarks Le Grand du Saulle, apropos to the "*folie du doute*," a mental anxiety from which the will tries in vain to free itself, but which is rarely accompanied with any irresistible tendency.

These are the psychic or ideative neurasthenias (*paranoia*, *rudimentaria ideativa* of Morselli), which include all the episodic syndromes, known or

unknown, essentially characterized by fixed ideas. In a second type, the conflict between the suggestion and the will does not remain a purely ideative phenomenon; there is a tendency to action, to the impulsive repetition of a word, a gesture, a ridiculous or unreasonable act, and it is the strife with this besetting tendency that causes again an anxious revolt of the will. These are the psycho-motor neurasthenias (conscious impulsions: *paranoia rudimentaria impulsiva* of Morselli) including all the morbid syndromes, known or unknown, essentially characterized by an impulsive besetment anxiously combated by the will. Finally, in a degree more marked, the will is so enfeebled that its potential energy no longer exists and the distress of the individual is not because he is fatally urged to the act but, on the other hand, from an agonizing feeling of his inability to accomplish it. These cases are the aboulic neurasthenias (aboulias) the psychological condition of which has been very well elucidated by Theodore Ribot in his remarkable work on "The Diseases of the Will," but the clinical description of which is still to be given. They comprise all the episodic syndromes, known or unknown, essentially characterized by the abolition of power with persistence of desire, a genuine phenomenon of arrest and inhibition.

Psychic, psycho-motor, and aboulic neurasthenias, *i. e.*, fixed ideas, impulsions, and aboulias, are, therefore, in my opinion, the subdivisions to be recog-

nized in the neurasthenia of degeneracy, the different varieties of which may moreover, coexist or replace each other in the same individual. In regard to the phrenasthenias I have also thought best to make a sort of synthesis, and, instead of enumerating successively all the varieties, that is to say, the numerous manifestations of degenerative insanity, I have aimed to unite them all under three principal heads as they present themselves: (1) under the delirious or hallucinatory type; (2) the lucid or reasoning; and (3) the impulsive or instinctive form.

As to the group of monstrosities, its varieties: imbecility, idiocy, and cretinism, are admitted by all, and I am compelled, like Morselli, to exclude the form "mental weakness," an indefinite type which at its extremes is confused with imbecility, and in its lighter forms with the phrenasthenias.

Summing up, the degeneracies of evolution or vices of psychic organization divide up, according to my views, into four principal genera, which are, going from the simple to the complex: (1) the disharmonies; (2) the neurasthenias; (3) the phrenasthenias; (4) the monstrosities. Each of these genera includes in its turn, as species: (1) the disharmonies: defect of balance, originality, eccentricity; (2) the neurasthenias: fixed ideas, impulsions, aboulias; (3) the phrenasthenias: the delusional, reasoning, and instinctive, phrenasthenias; (4) the monstrosities: imbecility, idiocy, and cretinism, to which may be added myxœdema.

I.—Functional Alienations (Insanities, Vesanias, Psychoses.)

Generalized or symptomatic insanities.....	(1) *Mania*.....	Subacute mania (maniacal excitation). Acute mania (typical mania). Hyperacute mania (acute delirium). Chronic mania. Remittent or intermittent mania.
	(2) *Melancholia or lypemania.*	Subacute melancholia (melancholic depression.) Acute melancholia (typical melancholia). Hyperacute melancholia (melancholia with stupor). Chronic melancholia. Remittent or intermittent melancholia.
	(3) *Insanity of double form.*	Continuous insanity of double form. Intermittent insanity of double form.
Partial or essential insanities.	*Systematized progressive insanity.*	First stage (hypochondriacal insanity.) Second stage (persecutory, religious, political, erotic, etc. insanity.) Third Stage (ambitious insanity).

II.—Constitutional Alienations (Degeneracies, Deviations, Mental Infirmities).

Degeneracies of evolution (vices of organization.)	*Disharmonies*.....	Defect of equilibrium, originality, eccentricity.
	Neurasthenias.....	Fixed ideas, impulsions, aboulias.
	Phrenasthenias.....	Delusional (multiple delusions of degenerates). Reasoning (reasoning insanity, moral insanity). Instinctive (instinctive insanity).
	Monstrosities.....	Imbecility. Idiocy. Cretinism, myxœdema.
Degeneracies of Involution (Disorganization.)	*Dementias*.....	Simple dementia.

We pass now to the degeneracies of involution or psychic disorganization.

Degeneracies of Involution or Psychic Disorganization.—While the vices of organization form a vast total of morbid states, the grouping of which, as we have seen, offers numerous difficulties, the psychic disorganizations present themselves under a simpler form, and without any complexity. Being essentially based on cerebral enfeeblement, that is to say, on the decadence of the individual, they sum up in a single genus, the dementias. It is true, all the cases of dementia are not absolutely alike, but they have all a common fundamental characteristic, the progressive dissociation of the faculties, in an almost unvarying order. For this reason we may have in an etiological, not clinical, sense many kinds of dementias; there is in reality only one type, that of simple dementia.

We have now reached the end of our classification, in which we have attempted, as we proposed to ourselves, "to group the morbid forms according to their more important nosological characters, in such a way as to obtain rational and methodical divisions." The exposition may have seemed somewhat arid and diffuse,—that is difficult to prevent in such a matter,—but the total of the preceding statements will not fail, we think, to make it clear with the aid of the table opposite, which gives in a synthetic list the natural grouping of classes, groups, genera, species, and varieties, that we have adopted.

III.

Our classification stated, that is, the first part of the problem solved, we begin upon the second, which we have, it will be remembered, formulated as follows: To retain in this classification only absolutely primary conditions and to rank apart the secondary states which uselessly encumber most classifications.

Nothing is easier than to realize this desideratum clinically.

If we go actually to the bottom of things we perceive that the innumerable insanities existing, apart from the primary types defined and named above, can all be reasonably considered as morbid associations, composed of two elements: (1) a vesanic element represented by any variety whatever of primary alienation (usually mania or melancholia), always identical fundamentally with itself; (2) a physiological or pathological element that serves, so to speak, as a substratum and varies according to the case.

Thus puerperal insanity is nothing but the association of a mania or melancholia with the puerperal condition; uterine insanity the association of this mania or melancholia with a disease of the uterus; paralytic insanity its association with general paralysis, etc., etc. That which differs in these morbid associations is therefore not the insanity, which is always the same thing, but only the existing process, and its proof is that with information and testimony

it is impossible to distinguish the different composite insanities from one another.

To close the case, the symptomatic insanities are not special forms and if they present any more or less striking peculiarities by reason of the condition with which they are connected, they do not essentially differ from simple insanity, of which they may rightly be considered as combinations.

This view, exact and practical, has the further merit of simplifying the general conception of mental disorders, since it shows that alienation is at bottom reducible to a few primary types and that all the other insanities are nothing but an association of these types, invariably playing the *rôle* of a radical, with some organic process or other.

In this way we believe we have solved the second term of the problem, in striking out from our classification "all the secondary conditions which encumber the majority of classifications."

If now we take a general view of the route by which we have come, we perceive that the data which have been given may be summed up in the following formulæ:

I. The conditions of mental alienation are susceptible of being divided into two great classes: (1) functional alienations or insanities; (2) constitutional alienations or degeneracies.

The insanities subdivide into two groups: (1) generalized insanities; (2) partial insanities. The

generalized insanities comprise in their turn three genera: (1) mania, (species: subacute, acute, hyperacute, chronic, remittent, and intermittent mania); (2) melancholia, (species: subacute, acute, hyperacute, chronic, remittent, and intermittent melancholia.) (3) Insanity of double form (species: continuous and intermittent double form insanities.) The partial insanities have only one genus; systematized progressive insanity, composed of three stages or species: (1) hypochondriacal insanity; (2) persecutory, religious, political, erotic, jealous, etc., insanities; (3) ambitious insanity.

The degeneracies subdivide also into two groups: (1) degeneracies of evolution or vices of psychic organization; (2) degeneracies of involution or psychic disorganizations. The vices of organization include four genera: (1) disharmonies (species: defect of balance, originality, eccentricity); (2) neurasthenias (species: fixed ideas, impulsions, aboulias); (3) phrenasthenias (species: delusional, reasoning, instinctive, phrenasthenias); (4) monstrosities (species: imbecility, idiocy, cretinism). The psychic disorganizations include but one genus: the dementias, which are also summed up in one species, simple dementia.

II. There are no primary states of mental alienation other than the preceding. All other insanities do not exist as distinct entities. They are nothing but associations of a generalized simple insanity,

mania or melancholia, with some physiological or pathological process in the organism.

Such, in brief, is the classification that is to serve us as a guide. It is, in effect, in the order indicated in the table which exhibits it, that we now pass to study, under the head of special pathology, the various primary forms of mental alienation.

SPECIAL PATHOLOGY.

FIRST SECTION

PRIMARY STATES OF MENTAL ALIENATION.

FIRST CLASS

FUNCTIONAL ALIENATIONS

(INSANITIES, VESANIAS, PSYCHOSES).

FIRST GROUP

GENERALIZED OR SYMPTOMATIC INSANITIES.

The generalized insanities, also called erroneously general insanities, are, as has been stated, those in which there is a permanent reaction of the mental disorder on the whole organism, that is to say, a lesion of the general activity. Apart from this fundamental character, they possess other fundamental characters which are summed up in this: (1) heredity is less frequent and serious; (2) occasional causes play in them a more important part; (3) they often appear as acute disorders; (4) they are essentially curable; (5) they frequently are associated with various other physiological or morbid conditions to form the compound or symptomatic insanities.

The generalized insanities include two genera: (1) mania; (2) melancholia or lypemania.

Chapter IV.

MANIA.

I—Acute Mania (Typical Mania). II—Sub-acute Mania (Maniacal Excitation). III—Hyper-acute Mania (Acute Delirium). IV—Chronic Mania. V—Remittent and Intermittent Mania.

§I. ACUTE MANIA (TYPICAL MANIA).

Definition.—Acute mania is the typical or simple form of mania. It is defined by Esquirol as "A cerebral affection, chronic, ordinarily afebrile, characterized by disturbance and exaltation of the sensibility, the intelligence, and the will." M. Ball defines it, in his turn, as: "An insanity characterized by a generalized delirium, with marked hyper-excitation of the intelligence and a tumultuous desire for movement."

Etiology.—Mania has not, properly speaking, any special etiology, and may recognize, singly or together, the majority of the causes enumerated in the etiology of insanity generally. It should be remarked, however, that it attacks, by preference, subjects of expansive and excitable temperament, young persons, the female sex, and that it is most liable to occur in the spring and during the summer.

SYMPTOMATOLOGY.—There may be recognized in acute mania a period of invasion, a period of culmination, and a period of termination or subsidence.

1—*Period of Invasion.*—The onset of acute mania is generally characterized by a phase of depression, fatigue, vague discomforts, moroseness, together with certain nervous and organic disturbances, such as cephalalgia, insomnia, loss of appetite, constipation, etc. This premonitory stage continues for a variable period, from a few hours to several days; when the general *malaise* passes away, and at the same time the psychic disorder begins to appear, so that at the moment the insanity really commences, the patients often experience a really surprising sensation of well-being. Little by little the excitement makes its appearance, an imperious desire for action is felt, all the faculties and functions become gradually exalted. From this arises an extreme mobility in thought and actions, continual changes of place, multiplied projects and conceptions, irritability of character, causeless outbreaks of passion, and, frequently, a more or less pronounced tendency to alcoholic and venereal excesses, which one must be on his guard against mistaking for the causes of the disease, of which they are really only among the earlier symptoms.

In certain cases, following, for example, a sudden suppression of the menses, or in periodical insanity, there is a very short stage of invasion, and the attack appears, as it were, in its full intensity from the first;

generally, however, there is a gradual onset; finally in some instances there occurs a very characteristic series of oscillations between the excitement and the normal condition before the psychosis takes on its continuous character.

In one of these ways, sooner or later, the case progresses to its culmination.

2—*Period of Culmination.*—An attack of acute mania does not conform to any one invariable description, the symptoms, although essentially the same, vary more or less according to the case. It seems to me best, therefore, to study the principal characters successively in the intellectual, moral or emotional, and physical spheres respectively.

a. *Intellectual Sphere.*—The characteristic trait of the state of the intelligence in acute mania, is the disorderly excitation of the faculties, which, freed from the domination of the will, act at hazard and without restraint. There follows: (1) a defect of consecutivness of the ideas, which arising *en masse* and unceasingly, accumulate, crowd, confuse and override each other without any apparent connection; (2) very marked incoherence of speech, revealing the disorder and the confusion of the ideas, and showing itself by a constant flow of words and unconnected phrases, and especially by obscene expressions which are frequent even from the mouths of young girls of irreproachable antecedents. On account of this excessive mobility of ideas, there are

not, properly speaking, any delusions in mania, and if ambitious or persecutory notions manifest themselves, they rarely do so in any systematic or consecutive fashion; (3) another very important symptom consists in the existence of very numerous and varied illusions. Hallucinations are, on the contrary, very rare, if indeed they really occur. The illusions in mania are either sensorial or mental. The sensorial illusions, connected with the hyperæsthesia of the organs of sense and the precipitateness with which the patients respond to their sensations without analyzing them, involve especially the sense of sight and consist in misjudgments of form, volume, positions, of objects, persons, etc. The very characteristic mental illusions are equally common. Also the result of the automatic activity of the mind, they are due to the rapidity of impressions and especially to the hyperactivity of the association of ideas; which gives rise in these patients to extraordinary conjunctions of ideas. A word uttered before them calls up a complete scene with which the word is connected; the termination of another word causes them at once to pronounce another word with a similar ending; and they thus construct whole sentences by assonances or rhymes. Similarly the names or faces of strangers about them recall to them individuals they have previously known and awaken in them a whole world of memories of the past which they adapt to their present life. This is the explanation of their designation of these individuals by special names and treating them

as if old aquaintances. The least object, the shape of a room or window, the reading of a word or even of a single letter, becomes with them the point of departure for the most fantastic dreams; and they believe themselves successively, and in the space of a few minutes: popes, kings, physicians, farmers, orators, women; in a palace, a prison, a hospital, a theatre, etc., etc. They assist in their imaginations in the strangest scenes. Their delirium is a dream in action. Maniacs that have recovered, and who, curiously enough, can recall day by day and minute by minute what they have said and done in the course of their attack, explain very well how the least word or object became with them the starting point of the most extraordinary ideas. We may say that the maniac, in his acute stage, lives in a condition of perpetual illusion.

Their writings are altogether similar to their speech, that is to say, incoherent, unconsecutive, full of designs and arabesques, of citations and unusual words, and written in every direction.

b. *Moral or Emotional Sphere.*—In the moral sphere the *tableau* is the same and is likewise summed up in a disordered activity of the feelings, instincts, and acts. Hence a mobility, an incoherence, an incessant changing of the feelings, affections, and emotions. The patients weep and laugh; they are pleasant and amiable; a moment later they burst into passion and sometimes into fury (maniacal furor). At bottom the maniacs are

not altogether bad, for they are incapable of planning evil on account of the variability and lack of continuousness of their impressions. They have, properly speaking, no character. As to the instincts, they are also morbidly exalted, especially the sexual instinct, and it happens too frequently that we see these patients give themselves furiously to the habit of masturbation, or when they are at large, indulge to complete exhaustion in sexual excess.

With this disordered excitement of the mental and moral faculties there is a corresponding excitement in action, which betrays itself by a constant desire to move, run, leap, dance, to indulge in *bizarre* gesticulations, to vociferate and cry incessantly. From this tumult of ideas and feelings, the maniacs, obedient blindly to their sensations, are subject to continual and instantaneous impulsions. They are in this way unconsciously dangerous, without intention, but they are more inclined to break, tear, or overturn whatever comes in their way, from a sort of automatic impulsion, than they are to conceive and execute the acts of homicide or suicide, which necessitate a reflection of which they are incapable.

c. *Physical Sphere* (*Morbid Reaction*).—Here also we encounter a disordered excitation that reveals itself in the most of the bodily manifestations.

The general attitude of maniacs is characteristic. They are in perpetual motion and excitement and no part of their body is quiet. They display an in-

cessant and absolute license of acts, gestures, singing, laughing, crying, contortions; the voice has a peculiar raucous quality; the countenance is animated, flushed; the eyes sparkling; the dress disordered and torn; the females especially are disheveled, semi-nude, they assume indecent attitudes and in some cases resemble actual furies.

Sleep is nearly or quite absent, and the nights are often more disturbed than the day. The insomnia is rebellious to all calmatives and sometimes lasts several months. General sensibility is usually much deadened, and the patients, in spite of the disorder of their attire, seem insensible to the most decided changes of temperature. The organs of special sense, on the other hand, are almost always the seat of a more or less marked hyperæsthesia. Muscular force seems to be increased, in any event we see the patients, even frail young females, display a vigor of which we could hardly believe them capable; moreover, in spite of the persistent excitement and frightful expenditure of force, the patients never seem exhausted.

As regards the organic functions, they almost invariably are affected by this excitement. The pulse becomes more frequent; the temperature often is elevated; the respiratory rhythm is quickened; the secretions augmented, especially the saliva, which is gotten rid of by a sometimes incessant expectoration, and the perspiration which is said to sometimes give off the odor of mice. The appetite is exagger-

ated, and some cases develop a revolting degree of voracity and gluttony; constipation may be obstinate. The bodily weight is much reduced, the patient becomes more and more emaciated, and it is only at convalescence, or, on the other hand, at the passage to the chronic state, that the *embonpoint* begins to reappear. In females the menses are usually suppressed; when they persist their return is nearly always the occasion of an exacerbation of the excitement.

3—*Period of Termination.*—An attack of acute mania may end: (1) in recovery; (2) in death; (3) by the passage into the chronic state.

Recovery.—Recovery takes place in acute mania in several different ways.

The excitement may disappear all at once, between two days, and the patient who fell asleep in a state of acute mania, may awake in the morning, perfectly calm, and in the full possession of his reason; often indeed, he is never more lucid than at the first moment. This mode of recovery should not be considered as of good omen, and it appears to be more special to mania of the intermittent or remittent types. It is best, therefore, to mistrust it, and when it occurs to be on one's guard against relapses.

A second mode of recovery is that by progressive oscillations. When the attack is about to end there is a glimmer of calm, which repeats itself at shorter

and shorter intervals, increasing each time in degree and duration, and alternating with the return of excitement which becomes each time less intense and prolonged till it finally entirely disappears.

A final mode of recovery is that by progressive and uninterrupted decrease of the symptoms. It begins with diminution of the excitement, return of sleep, and body weight, and gradually progresses till health is fully re-established. It is evident that this improvement in the symptoms is without value unless it involves both the mental and the bodily condition, since, as has been stated, the return of *embonpoint* coincident with persistence of the mental disorder is, on the contrary, a sign of bad augury. Aside from this eventuality, recovery by progressive amelioration is, like the preceding mode, a generally favorable one.

Death.—Acute mania rarely terminates in death. When this occurs, it is almost invariably due to a super-added acute delirium or some organic affection, especially a pulmonary disease.

Passage to the Chronic Condition.—Next to recovery, termination by passage into the chronic state is the most frequent one in acute mania.

The critical moment when the acute disorder ceases to be curable, to become definitely chronic, is one of the most difficult matters to determine in mental medicine. When it occurs, we see the excitement after being slightly diminished, persist in-

definitely in this new degree, always accompanied by incoherence and confusion of ideas while, on the other hand, the strength returns and bodily nutrition is re-established. Nothing is more variable than the epoch of this change to the chronic state. In some cases it takes place almost at once, at the end of the second or third month from the beginning of the attack; in others it has not yet occurred after three or four years.

Progress.—Duration.—Simple acute mania has generally a regular evolution, comprising periods of increase, culmination, and decline; but it may present an irregular course, with times of arrest, lucid intervals, and remissions. Its duration is also variable, and while we may assign it an average of between two and eight months, it may prolong itself much more, and last several years.

Pathological Anatomy.—Autopsies in acute mania are generally negative; the lesions encountered may be usually stated as being comprised in a genalized hyperæmia of the nervous centres.

Prognosis.—The prognosis of acute mania is most frequently favorable, as, according to most authorities, it ends in recovery about twice out of three times when it is uncomplicated.

The chances of a cure are particularly good in the first six months; they are only half as good, the second semester; and become almost *nil* after the third year. The instances of recovery after many

years that have been reported are exceptional and do not invalidate the rule.

The season has its influence on the mode of termination. In general there are few cures of mania in winter; they increase in number in the springtime, and it is in summer and autumn that the greatest number of recoveries are observed. Also, the younger the patient the better the chances of recovery. A first attack is more curable than a second or a third. The curability varies also according to the causes and the course of the disorder.

Diagnosis.—Acute mania is, as a rule, very easy of recognition. Nevertheless it may be confounded, during the first few days, with a febrile delirium, marking the beginning of an acute affection. The thermic evolution, however, is quite different in the two cases.

The most important point in the diagnosis is to determine whether the attack of acute mania is uncomplicated, or whether it is symptomatic of any other morbid condition, general paralysis, alcoholism, epilepsy, the puerperal state, etc., etc. This point, sometimes very difficult to decide, can only be resolved by a thorough acquaintance with the symptoms of the principal disease and the peculiarities it impresses upon the mania itself. We will, therefore, find the elements of this diagnosis in the continuation of our studies.

It is finally necessary to ask, in the presence of an attack of acute mania, whether it is not the first link

of a pathological chain, that is to say, the commencement of an intermittent or double form insanity. The succession of attacks can alone dispel all doubts. It is well to suspect this, as a rule, when there is pronounced hereditary taint, when cases of intermittent or circular insanity have existed in the ancestors, or, finally, whenever the attack begins and ends suddenly, and when the mind is never brighter than during the first days of recovery.

TREATMENT.—Isolation as soon as possible. During the attack, sedative measures of all kinds, especially warm baths prolonged for several hours. For the agitation and insomnia, bromides, chloral, paraldehyde, methylal, sulfonal, hyoscyamine, hyoscine, etc. Derivatives by the intestinal canal. When the passage to the chronic condition is threatened, strong revulsive measures may be tried and artificial suppuration established. Symptomatic treatment. In certain cases, the use of the camisole and of artificial feeding may be required.

§ II. SUB-ACUTE MANIA (MANIACAL EXCITATION).

Sub-acute mania, or maniacal excitation is only the first degree of mania. It forms a variety by itself in the nosological scale, with its own special symptoms.

ETIOLOGY.—Maniacal excitation recognizes the same causes as acute mania and insanity in general;

it arises more often from heredity than does simple mania, and it may be said that the majority of maniacally excited individuals are cases of hereditary predisposition.

Description.—Maniacal excitation reveals itself in an infinite number of degrees, from simple hyperactivity of the physiological operation of the intellect, to quite disorderly delirious excitement.

In its slightest degree it amounts to merely an exaggeration of the psychic activity, and may thus form a part of the constitutional make-up of some individuals who are all their lives mild cases of maniacal excitation.

In a more advanced degree, it is clearly pathological and is accompanied by well marked symptoms.

In the intellectual sphere all the faculties are in a state of extreme exaltation. The over-stimulated imagination leads the patients to devise a thousand projects, no sooner conceived than abandoned; business plans, political and social schemes, inventions, scientific, artistic, and literary ideas arise in multitudes, but differ very decidedly from the delirious ideas of acute mania, since, although for the most part unrealizable, they are not in themselves absurd and move constantly within the range of possibility. Often, indeed, on account of the exaltation of the faculties, they have a stamp of originality, of novelty, or of distinction and superiority that makes them really noteworthy. Patients in this condition have produced useful inventions, solved important problems,

brought out valuable works, in a word, have shown themselves more intelligent and productive than they had ever been before.

The memory is also in a condition of functional hyper-excitation, (hypermnesia); sometimes to such an extent that all recollections, even those that seemed most forgotten, reproduce themselves *en masse*, so that the patients recite long passages from the classics, make citations in all languages most correctly and appropriately, give names, dates, and figures with surprising accuracy; in short, display in detail without any omissions, all their acquirements, small and great, that they have made since their infancy.

The faculty of language is in keeping with the other faculties, that is to say, the animation of the excited maniacs is inexhaustible. Loquacious to the extreme, they express themselves with extraordinary facility, often even with choiceness and elegance; their discourse is full of bright remarks, jests, caustic pleasantries and anecdotes full of interest. The same is true of their writings and all other intellectual products which all bear the marks of this brilliant exaltation of their faculties.

The character of the ideas themselves is extremely variable and mobile. The predominating conceptions are those of pride, ambition, fortune, vague persecution, etc.; but they keep as a rule within the limits of coherency, and there are, properly speaking, no delusions.

In some cases, nevertheless, the excitation of the faculties is more marked, and there is a true delirium, always semi-coherent, that commonly assumes the ambitious type and reveals itself by ideas of invention, statesmanship, erotism, etc., etc. From these there have, in former times, been made a number of varities of intellectual mania, called, according to the type of ruling ideas, ambitious mania, mania of inventors, erotic mania, etc. When the maniacal excitation is thus accompanied by delusions, there are often added, as in acute mania, sensorial and mental illusions, but not of as unreasonable a nature. Hallucinations never occur, or at least if they are present, they are due to some superadded morbid condition.

In the moral or emotional sphere the hyper-excitation is shown generally by a more or less marked exaggeration of the evil tendencies and the vicious instincts. The maniacally excited individuals are, for the most part, vicious, proud, litigious, prodigal, obscene, malignant, passionate, even violent. They enjoy ridiculing everything, in plotting mischief, and are aided wonderfully in their perverse tendencies by their lucidity and shrewdness. At the same time they have frequently a very marked propensity to manœuvring, to scandal, to drink, to lewdness, especially when the attack takes on an acute form. It is almost only in general paralysis that maniacal excitation ever reveals itself by a moral erethism in the contrary sense, that is by a generous disposition and excessive philanthropy.

Maniacal excitement is nearly always accompanied by bodily activity, but moderated, coherent, and always very different from the incoercible agitation of acute mania. There are also occasional symptoms of transient congestion, such as pupillary inequality, tremor, slight hesitancy in speech, which complicate the diagnosis, all the more inasmuch as maniacal excitation is often symptomatic of incipient general paralysis.

COURSE.—DURATION.—TERMINATION.—The attack of maniacal excitation follows nearly the same course and has about the same duration as that of acute mania. Its most frequent termination is recovery; it rarely passes into the chronic condition; occasionally it is replaced by an attack of acute mania.

PROGNOSIS.—If we consider only the attack itself, the prognosis is very good. It must be borne in mind, nevertheless, that maniacal excitation is often only the first stage of a double form insanity or an intermittent mania, when it is not symptomatic of commencing general paralysis or of hysteria, which sensibly modifies the prognosis.

PATHOLOGICAL ANATOMY.—There is nothing to state in this regard unless it be that there is a more circumscribed hyperæmia than in acute mania. Autopsies, also, are very unusual in this disorder.

DIAGNOSIS.—Maniacal excitation, with its pathognomonic symptoms of intellectual hyper-activity is

recognizable at once. It is hardly possible to confound it with acute mania, from which it is distinguished by the absence of disordered agitation, nor with ambitious delusion (partial insanity) which, aside from its other characters, is almost never primary. It is much harder to distinguish the morbid species with which it may be connected, especially when it is a double form insanity or beginning general paralysis. It should be remembered that in these cases of double form insanity the physical symptoms are often lacking, the conceptions are never absurd or demented, and finally that the patients are thoroughly vicious and dangerous.

TREATMENT.—When maniacal excitation attains a certain height it is almost always necessary to sequestrate the patients, on account of danger to their families and to society. Otherwise the same treatment as for acute mania is applicable.

§III. HYPER-ACUTE MANIA (ACUTE DELIRIUM).

Acute delirium lacks a definite position in the list of mental diseases. According to some authorities, it is a morbid entity, according to others, a mere symptom or complication. In reality it may be considered as the highest degree of mania, of which it forms, by its peculiar characters, a special variety.

ETIOLOGY.—Acute delirium is usually the sequence of grave moral or physical disturbances. It

is especially symptomatic, that is to say, connected with different morbid conditions, such as general paralysis, alcoholism, puerperal states, etc.

DESCRIPTION.—The commencement of the disorder is nearly always marked by a period of premonitory depression, that in some cases may suggest an incipient melancholia. There has even been described a melancholic form of acute delirium, but this seems more properly to belong to the type of melancholia with stupor. Generally, after a longer or shorter depressive phase, the agitation makes its appearance and, in a few days, sometimes only a few hours, it reaches its maximum of intensity. The tongue becomes dry, the fever quickens, the pulse is over 120, the temperature rises rapidly to 40° or 41° (=104° to 105.8° F.), the head is hot, the eyes wild, the skin covered with a viscous perspiration. The patients appear terrified; they are the prey of an intense agitation; they give utterance to incessant cries, they expectorate constantly their saliva in whitish sputa, have a horror of food, and sometimes even exhibit symptoms of hydrophobia. The reflexes are exaggerated and the least excitation produces convulsive attacks.

At this moment, a cure is still possible by gradual defervescence, followed usually by a long convalescence; but the usual termination of the disease is death between the fifth and tenth day. When this is to occur the fever increases; a sort of coma succeeds the agitation; the pulse becomes more rapid

and weaker; the tongue and lips are covered with dark colored crusts, the breath is fetid, the respiration puffing; the urine and fæces are passed involuntarily, insomnia is persistent; subsultus of the tendons and general or partial convulsions appear; typhoid symptoms make their appearance; diarrhœa occurs, the pulse becomes imperceptible, coma is deeper and deeper; finally failure approaches and the patient dies, either suddenly in syncope or slowly from nervous exhaustion.

Pathological Anatomy.—In most cases of simple or vesanic acute delirium we find no apparent lesions at the autopsy (acute delirium without lesions); it is only when the disorder is symptomatic of some other affection (general paralysis, alcoholism), that we encounter marked alterations, especially of the congestive type. They consist of venous stasis and swelling of the brain with prominence of the convolutions, whitish streaks on the vessels of the pia, engorgement of the lymphatics, sanguineous extravasations scattered in the cerebral parenchyma, injection of the meninges with adherences to the cortex, pink tint of gray matter, œdema of the convolutions, increase of cephalo-rhachidian fluid, etc., and, in the viscera, various traces of congestion.

Briand counts acute delirium among the infectious disorders. He found bacteria in the urine and in the blood. It is, in fact, probable that acute delir-

ium is the result of an auto-intoxication; in any case it deserves investigation in this direction.

Diagnosis.—Acute delirium may be confounded with typhoid fever or pneumonia, and cases occur when only the autopsy can decide. Nevertheless, the evolution of the disorder, careful examinations of all the organs, and especially the temperature curve will usually furnish the requisite elements for the diagnosis.

Treatment.—Treatment is essentially symptomatic. It consists in fortifying and nourishing the system, keeping the patients in quiet and darkened rooms, in order to restrain their agitation, and the use of the usual sedatives and hypnotics. In the beginning, attempts may be made to prevent or attenuate auto-intoxication by antisepsis of the intestinal and the digestive tract.

§ IV. CHRONIC MANIA.

Chronic mania is rarely a primary disorder. It commonly follows acute mania, of which it is, as we have seen, one of the modes of termination. It is not therefore, properly speaking, a special variety of insanity.

It is characterized essentially by the indefinite persistence in an attenuated form of the symptoms of mania. There is no longer the violent and incoercible agitation, but there is a more moderate excitement, varied, at differing intervals, by exacer-

bation resembling the preceding acute form. The special distinguishing mark of chronic mania, however, is that the delusive ideas, so mobile and transitory in acute mania, here gradually assume a fixedness and consistency, so that they resemble, in some cases, a true systematized insanity. This type, which has hardly been studied in France, and which has elsewhere received the designation of secondary systematized insanity or secondary paranoia, takes on usually the ambitious form. It is not always easy to distinguish it from primary or essential systematized insanity, and only an acquaintance with the antecedents can clear up the diagnosis in some cases.

Chronic mania is incurable. When death does not occur from a visceral or cerebral complication, it terminates in dementia, which then bears the name of *maniacal dementia*, from its origin and the persistence amid the mental ruin, of some symptoms recalling the condition of the preceding mania. Life may thus be prolonged for many years.

§ V. REMITTENT AND INTERMITTENT MANIA.

Remittent mania is a variety of continued mania, characterized by the more or less regular return of acute crises or paroxysms, separated by periods of attenuations or remissions.

Strictly speaking, chronic mania might take its place with remittent mania as it is likewise formed,

in most cases, of alternating remissions and exacerbations. In it, however, these alternatives are neither constant nor regular, nor identical, as in true remittent mania where the regular alternation, often even periodical, between the remission and the exacerbation, forms the fundamental element of the disease.

Usually the order is as follows: An attack of acute mania occurs, passes its culmination and declines. A decided improvement is believed to be destined to end in recovery, but after a while a new acute attack appears followed by another improvement, and so on for years. The morbid succession is thereafter regular.

Intermittent mania differs from remittent mania in that the attacks are not separated by simple periods of amelioration or remissions, but by intervals of complete return to the normal condition or intermissions. Remittent mania is therefore a continuous insanity with exacerbations, while intermittent mania is an insanity of attacks alternating with the normal mental condition. This distinction is especially important in a medico-legal point of view.

True intermittent mania is that in which the attacks and intermissions succeed each other always in a regular and identical manner. The return of the different phases often then coincides with the return of certain seasons. It is rarely, however, that the insanity realizes so perfect an isochronism, and its periodicity is therefore more often only rela-

tive. The attack is sometimes longer or shorter, lighter or more severe; sometimes it is the intermission that is longest; it lasts sometimes several years.

Intermittent and remittent mania in nowise form varieties in a symptomatic point of view, and the attacks composing them, taken in themselves, are only the ordinary ones of acute mania and maniacal excitation.

What distinguishes them and gives them a particular physiognomy is: (1) that the attacks are reproduced in a more or less regular fashion; (2) that they are usually identical with each other; (3) that they begin and end, as a rule, suddenly; (4) that they are always separated by remissions or intermissions; (5) that the duration of their alternation is indefinite and ceases only when chronicity or dementia ensues.

It is necessary to add, for the sake of completeness, that remittent and intermittent mania, like insanity of double form, are rather special to the hereditarily disposed and degenerates. For this reason, several French and foreign authors (Morselli, Magnan) rank these forms, under the generic name of cyclical insanity, in the mental state of the degenerates.

The return of the attacks may also be influenced by different occasional circumstances, the seasons, the return of the menses, etc., and, according to Doutrebente, the intermittent insanities are at bottom related to the great neurosis epilepsy. According

to other memoirs, quite recently published, the intermittent maniacs more especially belong to the class of diathetic cases whose attacks of insanity correspond each time to acute attacks of auto-intoxication (Mabille and Lallemand, 1890).

TREATMENT.—Anti-periodics, quinine in particular, in large doses have been recommended to combat the intermittence, but the results have hardly been favorable. The attacks need, in reality, the same treatment as the ordinary ones of acute mania. A certain number of patients have recourse to the asylum of their own accord as soon as they feel the coming on of the attack.

Chapter V.

MELANCHOLIA OR LYPEMANIA.

I.—Acute Melancholia (Typical Melancholia). II.—Sub-acute Melancholia (Melancholic Depression). III.—Hyper-acute Melancholia (Melancholia with Stupor). IV.—Chronic Melancholia. V.—Remittent and Intermittent Melancholia.

§ I. ACUTE MELANCHOLIA (TYPICAL MELANCHOLIA).

Definition. — Melancholia, says Marcé, is a mental disorder characterized by delirium of a sorrowful nature and a depression carried sometimes to the extent of stupor.

It will be more exact to say that melancholia is a generalized insanity with delirious concentration of the mind on sad ideas, and with a painful reaction on the organism.

Etiology.—In contrast to mania, which attacks, by preference, subjects of expansive, exuberant, and naturally excitable disposition, melancholia occurs mostly in timid, reserved, timorous and scrupulous individuals. For this reason it is much more frequent amongst women than men. The proportion is about 2,038 females to 1,099 males, while in mania the ratio is 2,988 females to 2,679 males (Planat).

The most frequent causes of melancholia, apart from heredity, are violent emotions, prolonged grief, bodily fatigue, the puerperal condition, and visceral affections, that is to say, debilitating and depressing causes. More frequently than is commonly believed, it is the immediate result of an auto-intoxication, especially a gastro-intestinal one.

Symptomatology.—Acute melancholia presents a period of invasion, one of culmination, and one of termination or decline.

1—*Period of Invasion.*—The onset of melancholia is still slower than that of mania. It may commence with gastro-intestinal disorders, such as the saburral state, constipation, anorexia, etc., or even be consecutive to a more or less ancient dyspepsia. There are at the same time general malaise, weakness, depression, insomnia, disgust at everything, anxiety. In the very beginning we sometimes see an obstinate tendency to worry in regard to the health, money matters, business, family affairs, and past conduct, etc. But, aside from the fixedness of these ideas and the disquiet they cause, the mind seems unimpaired, and it is often only after the patient has made an attempt at suicide that those around him begin to believe in his insanity.

This premonitory stage lasts for a longer or shorter period, but the symptoms become gradually worse and the stage of full development of the disorder is reached.

2—*Period of Full Development or Culmination.*—We shall here describe, as was done in regard to mania, the psychic and the physical disorders of this stage.

a. *Disorders of the Psychic Functions.*—In the intellectual sphere, strictly speaking, the principal symptoms consist in a painful concentration of the mind, a characteristic delusive tendency, and hallucination.

The painful mental concentration reveals itself by a limitation and fixedness of the ideas, in contrast with their mobility and diffuseness as we observe them in mania. Here the whole being is painfully filled with one set of ideas and is absorbed in their incessant meditation. "*Animi angor in una cogitatione defixus atque inhaerens*" as Aretæus has well expressed it. With this, there is more or less complete lucidity in regard to everything unconnected with the delusions, so that the mind seems affected only on this one point. For this reason melancholia was classed before Baillarger, among the partial insanities or monomanias (*lypemania or monomania triste* of Esquirol).

The delusions of acute melancholia are characteristic. They may be extremely variable in expression, but the basis is always the same: They are composed of painful conceptions, such as ideas of ruin, impotence, hypochondria, damnation, vague persecutions, poison, disgrace, but especially of culpability and imaginary crimes. The patients believe themselves lost, covered with disgrace, they go back over the thou-

sand details of their lives and find unpardonable sins for which they are condemned to terrible punishments or to death; they reproach themselves for all they have done and said; they accuse themselves of lacking affection for their parents, and of having caused their ruin or death; they have offended God, made wrong confessions, committed sacrilege, lost the world and merit hell-fire; they think they are objects of every one's condemnation. Pusillanimous and timid in the highest degree, they are afraid to go alone, they fear everything without knowing why, they believe themselves in prison, surrounded with jailors, executioners, etc. Unlike the victims of persecutory delusions, who refer their torments to the external world and accuse others for everything they suffer, the melancholiacs refer all the evil that occurs around them to themselves and accuse themselves of being its cause. The distinction is characteristic, and, more than any other symptom, aids the diagnosis, which presents, at times, some difficulties.

Corresponding with these delusions, there is a special symptom in the speech. The patients talk but little, in a dull tone, slow and lugubrious, and, except in the groanings and complaints they utter, they have to, as it were, force out the words they use. Sometimes there is even complete mutism. They also write very little or none at all.

Hallucinations are nearly constant in acute melancholia. They may be multiple and involve several senses, nevertheless, those of hearing are the

most frequent. The patients hear night and day, but especially at night, voices accusing and reproaching them and threatening them with various punishments; they see phantoms, death's-heads, angels, the fires of hell, dramatic or terrifying scenes, such as battles, massacres, etc., etc. They claim to smell bad odors; their food has the taste of human flesh; they feel disagreeable sensations, are rotten, etc., etc. Sometimes also they experience internal illusions, genital or intestinal, of the most varied nature.

In the moral or emotional sphere the disorder may assume either of two different forms. Either the patients are apathetic and indifferent, not only to what concerns themselves, but also to whatever affects their family and whoever is most dear to them, going so far sometimes as to have a positive aversion to them, or, on the other hand, their affective sentiments are in a condition of exaltation, and they are in a state of morbid preoccupation about their relatives and friends. At the same time, they are generally anxious, self-tormented, lacking in will, and live in a state of perpetual apprehension.

The instincts are, for the most part, blunted and without reaction.

As regards morbid actions, they are characteristic. In fact, there are two tendencies almost inevitably connected with acute melancholia; they are: (1) refusal of food (2) the suicidal tendency.

Refusal of food, in some degree, is almost the

rule. It arises from the delusive ideas of the patients who think they are dishonored, ruined, and unable to pay for their food, whence they declare that they feel no hunger, are unfit to eat or wish to do penance. This refusal of food is also induced by the gastro-intestinal disorders nearly always existing. Sitiophobia in melancholiacs presents special characters which it is necessary to recognize. The patients, being incapable of any energetic exercise of the will, do not generally offer an obstinate or invincible opposition, like those suffering with delusions of persecution for example. Theirs is an inert, passive refusal, without firmness, so that sometimes it is possible to make them take food from a nipple like infants; it is often necessary, nevertheless, to use continuously the methods of artificial alimentation.

As to the tendency to suicide, it exists almost invariably to some extent in acute melancholia, and exhibits itself with the same characters of inertia and indecision as the refusal of food. The melancholiac has a strong enough desire to die, as, with all the morbid ideas that haunt his brain, life is a burden; but he is most frequently incapable of making a serious effort to destroy himself or to employ the least energy in carrying out the project. It seems to him that death ought of itself to come to him. Therefore, in many instances, his attempts are imperfect and ridiculous. Some patients limit themselves to thrusting pins through the skin, or swallowing some

inoffensive substance, others tie a cord or handkerchief around the neck and leave it there without having the energy to draw it tight. The majority consider a long time over their project, they take up again and again the weapon or the poison they have chosen; in short, they manifest an absolute want of initiative or decision. Such are the usual characters of the suicidal tendency in the melancholiacs, but it must not be forgotten that no absolute rule can be laid down, and that these patients may, under the influence of a sudden impulse or an unforeseen accession of energy, make way with themselves suddenly and without hesitation (*raptus melancholicus.*)

b. *Disorders of the Bodily Functions.*—The insane, like normal individuals, do not all react in the same fashion under the influence of painful emotions. Some keep all their troubles to themselves and let nothing escape them, so that their physical activity is in an inverse ratio to their psychic exaltation. In others, on the contrary, the suffering manifests itself by disturbed or anxious activity and this bodily reaction is in direct proportion to the delirious exaltation. There are, therefore, two types of melancholiacs as regards attitude and external manifestations: the depressed and the exalted types.

The depressed cases have a corresponding appearance, the head hanging, the arms pendent, movements slow, gestures infrequent, the physiognomy is altered, the features drawn, the face thin and pale, the expression sad, the aspect gloomy and dull, the fore-

head wrinkled, the mouth contracted; they are immovable, inert and passive, it is necessary to dress them, make them rise, walk, or eat, without compulsion they will do nothing. It is only on rare occasions that they are seized, all at once, with a kind of impulsive attack during which they give themselves up to automatic acts of violence (raptus).

The exalted cases, on the other hand, have a disturbed countenance, the eyes bright, the manner anxious or terrified. Their feelings manifest themselves in tears, cries, groanings, disconnected complainings, jerky gestures, and the constant identical repetition of certain mechanical acts. They undress themselves, tear their apparel, twist their fingers and lips, and tear the skin of their hands and face without feeling it or, as it were, without paying to it any attention.

In all, the sleep is disturbed and unsatisfactory, troubled by dreams, nightmares and hallucinations.

The sensibility is very obtuse, occasionally, so to speak, abolished. The special sensory functions are likewise weakened and retarded.

The respiration is slow, incomplete, and its ratio to the cardiac rhythm reduced. Hæmatosis is, therefore, interfered with, which fact explains the frequent occurrence of passive congestions of the lungs in melancholiacs.

The heart beats with less energy and its movements are slower. The pulse is variable, sometimes it reaches 100 or 120, sometimes it falls to 35 and 40 per minute. Bodily temperature is lowered, es-

pecially at the periphery where it may fall three or four degrees (Centigrade). The extremities (hands, nose, ears) are chilled and cyanosed.

Gastro-intestinal complications are almost invariably encountered. They consist in a saburral condition of the digestive passages, dyspepsia with hyperacidity, flatulence and constipation. These disorders are in part responsible for the refusal of food and are among the causes of the emaciation it produces. The breath of melancholiacs is strong and offensive, especially in patients that do not eat. The secretions are also diminished, and the same usually occurs in the genital activity.

3. *Period of Termination or Decline.*—Acute melancholia may terminate, like mania, (1) in recovery; (2) by death; (3) by passing into the chronic state.

Recovery.—This is the most frequent termination. It occurs customarily by a progressive reawakening of activity, return of sleep, and gradual disappearance of the delusive conceptions. Very frequently there is left a residue of general depression and obtusion of the faculties that continues for a longer or shorter time after recovery.

Death.—Termination in death is not rare, especially in debilitated cases. It occurs either from a gradual enfeeblement, the result of inanition, from bodily decay, or from some visceral compli-

cation, diarrhœa, pulmonary congestion, etc. Finally, death may be from suicide.

Passage to the Chronic State.—Passage to the chronic condition is less frequent than in mania. When it occurs, the depression decreases, but persists in a subacute form, the delusions and hallucinations become fixed and permanent, while the general bodily health is in whole or in part re-established.

Forms of Acute Melancholia.—Many authors admit the existence of various forms of acute melancholia, and distinguish: religious, demoniac, hypochondriacal and suicidal melancholias; also depressive, anxious, groaning, panophobic varieties, etc. etc. Fundamentally there is only one disease, acute melancholia, varying in its aspect only as it is looked at from the point of view of predominating tendencies and ideas or from that of its general attitude and mode of external reaction.

Course and Duration.—Acute melancholia has habitually, like mania, a regular course, susceptible of division into distinct periods. It is, notwithstanding, particularly subject, during its course, to frequent, more or less marked, oscillations. Its duration is generally longer than that of mania, as recovery rarely takes place before three or four months. It occurs, on the average, between the sixth and the twelfth month.

Pathological Anatomy.—The lesions of acute melancholia are hardly known. They consist, it is said, in an ischæmia of various regions of the brain. The visceral alterations, particularly those of the abdomen, are perhaps more constant and pronounced. This is the reason why so much influence has always been attributed to them in the production of melancholia, whatever might be the mechanism (sympathy, auto-intoxication.)

Prognosis.—The prognosis of acute, uncomplicated melancholia is almost as good as that of acute mania. When melancholia is symptomatic, the prognosis varies according to the affection with which it is allied. In opposition to mania, melancholia is aggravated in autumn and winter, and recovers easily in the spring. It is especially serious on account of the morbid acts it induces, refusal of food and tendency to suicide.

Diagnosis.—Acute melancholia may be mistaken for typhoid fever, especially in the beginning when it is accompanied with accelerated pulse and a saburral condition of the digestive canal. The character of the delirium and the course of the temperature suffice usually to clear up all doubts.

Melancholia with predominating ideas of persecution may be taken for progressive systematized insanity. The general depression, the absence of the fixedness of the delusions and hallucinations, the suicidal tendency, and, finally the humility, and con-

trition of the patient, form the principal differential signs.

The important point for diagnosis is whether the melancholia is simple, or allied with some morbid state, such as alcoholism, general paralysis or some visceral disorder. We should never, therefore, neglect to search in melancholiacs for somatic disorders, and especially to examine the different viscera and organs of the economy.

Treatment.—At the commencement, moral treatment by traveling and recreations, aided by general therapeutic agents like hydrotherapy and electricity, may be tried. These, however, generally fail. The best results, in mitigating or keeping down the attack, are obtained by instituting a medical treatment intended to combat the phenomena of auto-intoxication (repeated purgation, gastro-intestinal antisepsis, etc.)

When the disease is fully established, asylum treatment is nearly always necessary, for the triple purpose of isolation, treatment, and oversight of the patient, whom it is always necessary to guard against possible attempts at suicide. There may be employed, according to the case, hydrotherapy, wet pack, Russian or Turkish baths, mustard baths, dry friction, or electricity (galvanism and faradism). Suitable food, and, if needed, forced alimentation, should be administered. Nervous sedatives and hypnotics (bromides, chloral, injections of cocaine (Morselli and Buccola), tincture of nux vomica and laud-

anum in progressive doses), combined with confinement to bed, daily purgatives and douches (Bell and Lemoine). Tonics (quinine, iron, caffeine, kola, peptones). Repeated purgations. Methodic lavage of the stomach (alkaline, acid or antiseptic, according to the case). Complications are to be treated as they occur.

§ II. SUB-ACUTE MELANCHOLIA.

(Melancholic Depression).

This variety of melancholia also bears the name of melancholia with consciousness.

Etiology.—Heredity very common. Arthritism (Rouillard). Predominance of female sex. Influence of menstruation and especially of the menopause.

Description.—The beginning of the attacks is usually more sudden than in acute melancholia. They may occur either in the non-delusional or the delusional form. In the first the whole is comprised in or limited to a general condition of depression, inaction, and impotence. The patients avoid all labor, all occupation and all society; they isolate themselves in their rooms, where they stay sometimes for weeks and whole months, not wishing to see any one, passing their time seated or in bed, incapable of wishing or deciding or of making an effort. This is simple melancholic depression, which is also called,

according to the case, moral hypochondria, misanthropic melancholia, perplexed melancholia, aboulic melancholia. With it, there are usually combined constipation, retardation of the general nutrition, insomnia, and sometimes a conscious and reasoning tendency to suicide (suicidal melancholia).

The delusional form of sub-acute melancholia may appear under various forms, according to the nature of the morbid ideas. The principal ones are: *hypochondriacal melancholia* (nosomania of the older writers) characterized by unreasonable apprehensions relative to the health and to the functioning of the different organs. It is often connected with visceral disorders, of which it is then the indirect consequence. *Melancholia with ideas of persecution*, characterized, as its name indicates, by varying ideas of persecution, unsystematized without hallucinations, and which must not be confounded with essential insanity of persecution, which will be described later on. *Religious melancholia*, especially common at puberty and at the menopause in persons of piety, which is essentially characterized by scruples of conscience, ideas of religious culpability, fear of damnation, etc.

Under whatever form sub-acute melancholia may present itself its essential characteristic is the lucidity of the patient, often accompanied by a genuine consciousness of his condition, whence the name of melancholia with consciousness that has been given it. The patients are capable of appreciating their

disorder in its true light and, sometimes even, of resisting their pathological homicidal or suicidal tendencies.

Cause. Duration. Termination.—Sub-acute melancholia generally manifests itself in the form of more or less lengthened attacks, beginning and ending suddenly, and ordinarily occurring several times in the same patient. The usual termination is therefore in recovery, but in one that is liable to relapses. In some cases death may take place, almost always by suicide.

Prognosis.—The prognosis is more grave than that of acute melancholia.

Pathological Anatomy.—The lesions are variable and little known; the same fundamentally as those of acute melancholia.

Diagnosis.—Sub-acute melancholia, especially in its delusional form, may be confounded with certain forms of partial insanity, notably with hypochondriacal and religious insanity and insanity of persecution. The essential elements of the diagnosis are: the painful nature of the delusions, the fundamental general depression and the tendency to suicide which are wanting in partial insanity. We will point out later on the distinction between aboulic melancholia and aboulic neurasthenia.

Treatment.—The treatment is the same as for acute melancholia. Moral treatment is especially to

be emphasized. The medication should be suited to the case when the disorder is symptomatic of a visceral affection.

§III. HYPER-ACUTE MELANCHOLIA.

(Melancholia with Stupor.)

Stupor has been placed under the head of melancholia only since M. Baillarger demonstrated that it was its highest expression; previously it was regarded as a variety of dementia (acute dementia of Esquirol). In reality it may be considered as a hyper-acute melancholia, that is to say, as being to melancholia what acute delirium is to mania.

Etiology.—Stupor generally follows an acute melancholia or complicates it. It is especially frequent in the different stages of sexual life; puberty, menstruation, puerperal condition, menopause.

Description.—In a psychic point of view we distinguish cases where the patient is plunged into a veritable stupor (simple stupor, without delusions, or passive), and those where the stupor is only apparent and masks very active mental workings. In this last condition, elucidated by Baillarger, the patients are the prey of the most terrible delusions, of terrifying hallucinations, they assist in their internal consciousness in the most frightful dramas which have nearly always for their themes, massacres, burnings, and scenes in the infernal regions.

In a physical point of view the depression is pushed to the extent of completely abolishing the general activity of the organism. Every effort is concentrated in the mental domain, but there is no external manifestation, and nothing of that which is passing in the thought is revealed outside. The patients are absolutely inert and immobile; they do not talk, walk, eat or make any gesture or movement; their limbs are semi-contracted, and retain the position in which they are put, like those of the cataleptics; their countenances are impassive and present the mask of a profound hebetude; their lips are half opened and dripping saliva; their whole bodies, and especially their extremities, are cold and bluish; anæsthesia and analgesia are complete; the bodily temperature is lowered several degrees; the pulse is very slow, the sitiophobia is invincible, and their untidiness is absolute. These patients remain in this condition for whole months, sometimes in bed, sometimes erect, or sitting in some corner of the ward doubled upon themselves with the immobility of a statue. Occasionally, under the influence of a sudden impulse, they drop all at once their torpor, have a sudden spell of agitation, or commit some act of violence, then everything is again quiet and they fall anew into their inertia.

The majority of foreign authors recognize and describe under the name of *attonität* and of katatonia (Kahlbaum), conditions which are fundamentally, as Séglas and Chaslin have recently demon-

stated, nothing else than melancholia with stupor under its different aspects, and in which predominate either the phenomena of hebetude, or spasmodic and cataleptiform symptoms.

Course. Duration. Termination.—Melancholia with stupor has a slow chronic course, of variable duration. It is susceptible of cure and in this case the patients can generally recall all the phases of their delirium; but more frequently when the affection is prolonged, they fall into cachexia and marasmus and end by being swept away by the progress of the physical decay or by some complication, such as passive congestion or gangrene of the lungs.

Pathological Anatomy.—In a physiological point of view, stupor is, according to M. Ball, a phenomenon of arrest. As to the anatomical alterations to which it is connected, mention should be made of œdema of the brain, that has been claimed to be its characteristic lesion, but which is far from being constant, and of an atrophy of the convolutions that has been observed in certain cases.

Treatment.—Is the same as that for acute melancholia. Tonics and general excitants, hydrotherapy and electricity are to be insisted upon. Forced alimentation.

§IV. CHRONIC MELANCHOLIA.

Chronic melancholia is, as we have seen, one of the modes of termination of acute melancholia. It may succeed either the depressive or the anxious forms.

In the first case, it consists in the persistence in an attenuated form of the psychic and bodily symptoms of acute melancholia. Nevertheless, the delusive ideas become gradually modified at the same time as they take on a special fixedness. They are ideas of persecution or religious delusions, nearly always accompanied with multiple hallucinations, and they form a sort of systematized insanity, differing only from true progressive systematized delusions by its mode of beginning and evolution, the existence of a certain degree of general depression and the return at irregular intervals of melancholic paroxysms accompanied with suicidal tendency that recall the former acute attack. This is what is called, very accurately, by some foreign writers, secondary systematized insanity of the melancholic type (*paranoia secondaria melancholica*).

Very nearly the same course is followed in chronic melancholia consecutive to the anxious form. Here, however, the delusions take on a special character, to which attention has been very properly called by Cotard. They consist in absurd hypochondriacal conceptions, resembling closely the hypochondriacal delusions of depressive general paralysis. The patients believe themselves dead, decomposed,

choked up, annihilated. Others say that they have neither age, sex, nor name, that they do not exist and that nothing exists (insanity of negation or enormity, of Cotard). These delusions finally lead to a veritable transformation or duplication of the personality (Cotard, Séglas).

In any case of chronic melancholia we may see occur, either temporarily or permanently, ideas of grandeur, the existence of which cannot fail to complicate an already difficult diagnosis. Nevertheless, the ideas of grandeur may manifest themselves in an altogether characteristic melancholic form. The patient will say, for example, not that he possesses or that he has stolen, but that he owes millions and thousands of millions. These various symptoms of chronic melancholia and, in a general way, of the different types of secondary systematized insanity have not yet been sufficiently studied.

Chronic melancholia is incurable. It may continue indefinitely and finally change to a special form of dementia (melancholic dementia) or it may terminate, at any moment during its course, by death (suicide, chronic visceral disease, acute incidental disorders).

§ V. REMITTENT AND INTERMITTENT MELANCHOLIA.

All the considerations already brought forward in regard to remittent and intermittent mania will, without exception, apply to remittent and intermit-

tent melancholia. It is therefore unnecessary to reproduce them.

We will confine ourselves to the statement that cyclical insanity is less frequent under the melancholic form, and that when it does exist it manifests itself by preference in the acute or sub-acute form.

Chapter VII.

INSANITY OF DOUBLE FORM.

(Circular Insanity, Delirium of Alternating Forms, Insanity of Double Phase.)

DEFINITION.—Insanity of double form is a generalized insanity, characterized by the regular succession of melancholico-maniacal attacks, that is to say, of attacks made up of a period of melancholia and one of mania, or vice versa.

ETIOLOGY.—The chief cause of insanity of double form is heredity, which assumes here most often the *similar* type. Next follow the other physical and moral causes of insanity. The disorder is more common in females than in males. It usually commences between the ages of 20 and 30, either following some accidental cause or without any apparent reason.

DESCRIPTION.—Insanity of double form, vaguely suspected by older writers, was actually discovered by M. Baillarger and by Falret, Sr. M. Ritti gave in 1883 a complete and very excellent description of it.

In order to make ourselves well acquainted with this form, we must study successively: (1) The composition of the attacks; (2) the manner in which they are connected one with another.

(1). The attack of insanity of double form is composed of two distinct periods, one of mania the other of melancholia. But this mania and this melancholia are not conditions special to circular insanity; they are nothing but simple mania and melancholia, such as we have studied in the foregoing chapters. There is, therefore, no need of describing here a special symptomatology of this form; it is enough to state that the attack which composes it is made up of a period of mania and a period of melancholia, to be acquainted in advance with all the symptoms.

All the varieties of mania and melancholia that have been passed in review may be combined to make up the attack of insanity of double form. Thus the attack may be formed of a period of acute mania and one of melancholia with stupor, of a period of maniacal excitation and one of melancholic depression, etc., etc. We repeat, all combinations are possible, and it should be recognized that there is no necessary relation between the degree of intensity of one or the other period. Thus a period of slight maniacal agitation may be associated with one of acute melancholia or of stupor to form the attack, and, reciprocally, a period of simple melancholic depression may be combined with one of acute mania. The most usual constitution of the attack, however, is the union of a period of more or less acute maniacal excitation with one of melancholic depression.

An important point to know, is that when one at-

tack has occurred, it is usual for the succeeding ones to resemble it in all particulars, to present the same symptomatic physiognomy; so that when we know one attack we know all.

The transition from one period to another is not always in the same fashion. Sometimes the change is brusque, instantaneous; it may then occur even during sleep, so that the patient going to sleep a maniac, awakens in the morning a melancholiac. This is often the case in double form insanity of very short periods. It is more common, however, to see the passage from one state into the other made by insensible gradations, in such a way that there is a moment when the individual seems to be neither maniacal nor melancholic, but in a condition of perfect equilibrium. This moment of equilibrium has been, from the first, variously interpreted. Falret considered it a true intermission of short duration, so that, in his opinion, the attack was made up of three periods: one of mania, a second of intermission, and the third of melancholia. Baillarger showed, on his part, that the moment of equilibrium is not an intermission, but a simple instant, difficult to grasp, traversed without stopping by the patient in passing from the period of mania to that of melancholia, and that, consequently, these two conditions follow each other without interruption like the different stages of intermittent fever. This is, indeed, what usually occurs; but the intermission claimed by Falret may be observed

in certain exceptional cases. Ritti holds that these are not cases of insanity of double form, but alternating attacks of periodic mania and melancholia (periodical insanity of alternating forms). A last mode of transition by successive alternations consists in rapid alternations of excitement and depression serving as an intermediary between the end of one period and the commencement of the other.

Whatever may be the way in which the periods succeed each other, the characteristic mark of insanity of double form is the striking contrast the patients present when observed in one period or the other. In their condition of maniacal excitation they are youthful appearing, full in flesh, lively, vigorous, alert, the face is animated, the complexion bright, they are loquacious, talkative, turbulent and constantly in action. They are prodigal, spendthrifts, vain, false, litigious, passionate, violent, inclined strongly to evil, and very often excessive in alcohol and sexual indulgence. If they have delusions, they are those of pride, haughtiness, ambition and grandeur. In their stage of melancholic depression they are so different from the above that one would hardly take them for the same individuals. During this period they are old looking, emaciated, broken down, wrinkled, without force or energy; their countenance is downcast, dull, their complexion pale; they do not speak or move but pass their time lying down or altogether inactive. They are avaricious, economical to excess, they do not eat or drink

or have any sexual desire, they show themseives humble, submissive, without volition, obedient and passive. If they have delusive ideas, they are those of ruin and culpability that haunt them, and these very often induce refusal of food and suicide. Even the organic functions do not fail to suffer in these two different conditions, and the pulse which is active to its full physiological limits in the period of mania, falls to 40 or 50 pulsations during that of melancholia.

The same is true in regard to the temperature, the peripheral circulation, the appetite, the secretions and excretions, which exhibit very remarkable differences in the two periods: it has been found also that the bodily weight increases during the period of mania to fall again in that of depression.

This, so striking a contrast presented by the patients, is in reality one of the most curious and interesting of the peculiarities of mental medicine.

(2). The constitution of the attack being known it remains to examine how the different attacks succeed each other in series. The altogether exceptional cases where the malady includes only one attack may be therefore left without consideration.

Two cases may present themselves. Either the attacks may follow one another uninterruptedly and without being separated by any intermission, thus constituting *continuous insanity of double form*, or they may be separated from each other by a longer or shorter intermission, by a more or less pro-

longed return to the normal condition, thus constituting *intermittent insanity of double form* or that made up of separate attacks. Many authors also designate the first of these *circular insanity* or the insanity of double form, properly speaking.

There are, therefore, only these two varieties of double form insanity, if we agree with M. Ritti that the periodical insanity of alternating forms is not to be included under this head, which is a point open to question.

Course. Duration. Termination.—The course of insanity of double form is essentially chronic and intermittent, or rather periodical.

As regards its duration, we must consider separately the duration of the attack and of each of the periods that compose it, and the duration of the malady itself.

The attack may last months or years, or, on the other hand, it may be limited to a few days. The first is, however, the most frequent; the attack has usually a duration of six months, one year, or eighteen months, and is composed of a period of excitement of one to three months or more, and a period of melancholia generally somewhat longer. Although the attacks have nearly always the same duration, this equality is only approximate; one attack may be longer, another shorter, and the same, moreover, is the case with the periods that compose them. Nevertheless, we may say that, as a rule,

they have the same general character and the same duration.

In the second case the attacks last a day, two days, three days, and so on, up to one month. Generally, in this case, the periods have nearly the same duration and the attacks are more regular.

The duration of the intermission is very variable. It is in double form insanity, with very brief attacks, that it is most often lacking. On the other hand, it is almost always present when the attacks are of long duration. It may have a duration of a few days, of many months, and even of several years.

As regards the duration of the disorder itself, it is very long. It may be said, even, that it is indefinite, interminable, since with the alternations once established, the patients revolve in the same circle for many years, and generally as long as they survive.

Insanity of double form may end in recovery, a termination very infrequent, and so to speak, exceptional. It usually terminates in dementia, but only after a long time, as the patients yield very slowly to the failure of the intellect. It may change into some other form of insanity, simple mania or melancholia, for example, but this is very rarely the case. Finally, it may terminate by death, which occurs, so to speak, by accident, or from an intercurrent disease, i. e., from suicide, cerebral congestion, epileptiform attacks, pneumonia, etc., etc.

Pathological Anatomy. — Except in cases where the patient dies of apoplexy and there is found at the autopsy an evident organic alteration, insanity of double form has no peculiar lesion. On the contrary, this succession of two opposed conditions, mania and melancholia, which replace each other and are generally followed by a return to the normal condition, is proof enough that there exist only functional disorders, susceptible not only of disappearing, but also of being replaced by directly opposed conditions. It is probable that the stage of excitement corresponds to a cerebral hyperæmia, and that of depression to an ischæmia, as in simple mania and melancholia.

Prognosis.—The prognosis of insanity of double form is very grave, as the disorder is, like most of the intermittent or periodical insanities, almost never curable. Falret, Sr., has already called attention to the noteworthy peculiarity that double form insanity, which is made up of the two most curable forms of mental disease, mania and melancholia, is itself one of the most incurable.

Diagnosis.—Taken as a whole, insanity of double form, with its regular succession of opposite conditions, cannot be confounded with any other. Nevertheless, when the stage of melancholic depression is but slightly marked, it may happen that it passes unrecognized, and the malady is taken for a chronic mania of the remittent or intermittent type, all the

more probably, since in these the attack of mania is also sometimes succeeded by a slight depressive reaction.

It very often happens that an isolated period of double form insanity is mistaken for a simple attack of mania or melancholia, and that on its termination the patient is considered cured. This mistake has been often made, and, notably, by M. Baillarger himself. It is in consequence of the fact that the mania and melancholia of insanity of double form are in no respects different from simple mania and melancholia, and that, taken by themselves alone, it is impossible to distinguish them. All that can be said, is that, as a rule, whenever we have to do with an attack of maniacal excitation we ought to be on our guard, and make sure whether it is not due to a commencing general paralysis, or to hysteria, or to insanity of double form.

It may be mentioned that insanity of double form may be confounded in its maniacal stage, with the prodromic period of the expansive form of general paralysis. This error is the more possible as the excitement may cause the appearance in insanity of double form, of certain congestive phenomena such as pupillary inequality, tremor, hesitation of speech, which complicate the diagnosis. The distinction is established by the fact that in general paralysis, even in its beginning, the ideas have a stamp of dementia that is lacking in double form insanity, and, further, by the fact that in the excited stages of cir-

cular insanity, the patients are thoroughly vicious and malevolent, while the expansive general paralytics are, at least in appearance, generous and benevolent.

Insanity of double form once recognized, it still remains to be determined whether it is *simple*, which is usually the case, or whether it is connected with some other morbid condition. If the latter, it is almost always with general paralysis (circular general paralysis or paresis of double form), epilepsy, or hysteria.

TREATMENT.—Sulphate of quinine in large doses, 30 or 40 centigrams to 2 grams per diem, has been recommended for this disease, principally on account of its periodic character. Bromide of potash and hypodermic injections of opium and morphine have likewise been employed. The treatment of the attacks and that of each period call for the ordinary means used in attacks of mania and melancholia. Dr. Hurd has recommended hyoscyamine in the excited periods, and codeine and citrate of caffeine in those of depression. Sequestration of the patient is especially demanded during the period of excitement, the patients being then habitually dangerous. It is less necessary during the periods of melancholia, especially when the depression is not very great.

APPENDIX.

The Graphic Representation of Generalized Insanities.

In order to furnish a clearer idea of the many special points relative to the constitution and the course of the generalized insanities, it seems to me to be of utility to represent them here in a graphic form, by the aid of a diagram specially devised for the purpose.

This form, which I presented to the Société Médico-psychologique in 1883, and which I have constantly used since then, in my free instruction in the medical school at Bordeaux, is composed essentially of a dotted horizontal line representing the normal condition. Above this diverge, according to their intensity, the lines representing the various types of excitement or mania; below, in an inverse order, those of the different types of depression or lypemania. The schematic diagram thus formed is cut by vertical lines indicating, as in the temperature diagrams, the division into days.

With this very simple diagram we can reproduce exactly, and in their minutest traits, the types of generalized insanity we have passed in review.

For instance, we have in figure 1 an attack of acute mania. We see represented there:

(1). The initial period (A B) characterized first by depression, then by progressive excitement which may reach its apogee either suddenly or very gradually, or, as here indicated, by a series of gradual oscillations.

(2). The period of full development (*période d' état*) (B C), or that of the attack, properly speaking, characterized by the acute evolution of the excitement with more or less marked variations.

(3). The period of termination (C D), which in the case of recovery, here selected, is characterized by a return, either sudden, by oscillations, or by insensible transitions, to the normal condition.

It will be readily seen that an attack of sub-acute or hyperacute mania, as well as any variety of melancholia, with their special variations of beginning, intensity, evolution, and termination, can also be thus represented.

Figure 2 represents remittent mania. This variety of insanity is constituted, as we are aware, by the more or less regular return of acute crises or paroxysms of mania, separated by periods of attenuation or remission. Here is seen, in the clearest manner, this succession of phenomena. A B C D gives us the curve of the acute attack with its three periods of onset, culmination, and decline; D A shows the remission, its intensity, and duration; then a new exacerbation A B C D is produced, followed by a new remission, and so on indefinitely.

Instead of remittent mania we may take for our tracing remittent lypemania, which will not require further explanation.

Figure 3 represents intermittent mania. This variety of insanity is formed, as we are aware, by a succession of maniacal attacks separated from each other, not by phases of attenuation like remittent mania, but by complete returns to the normal condition, or intermissions. A B C D figures the attack, with its initial period, its sudden termination, and its period of culmination; D A is the return to the normal condition, a true recovery, as is seen, differing only from an absolute recovery in that it is intermediate between two attacks. Following it, in fact, we see a new attack A B C D produced, altogether identical with the former one, then a new intermission, and so on.

Figures 4, 5 and 6, are devoted to the representation of insanity of double form. In figure 4, we have continuous double form or circular insanity in which the attacks of insanity are connected end to end and follow each other without interruption. A B C D A represents the complete attack of double form insanity, in which we see the sudden beginning of the phase of excitement (A B); its period of full development (B C); the instantaneous passage of the phase of excitement into that of depression (C D); the period of full development of the phase of depression (D A); the sudden passage from the phase of depression to that of excitement (A B). Then a

new attack like in all points to the former one, etc., etc.

In figure 5, we see figured the curve of intermittent double form insanity or that with separated attacks, in which the attacks, instead of succeeding each other uninterruptedly are separated by longer or shorter returns to the normal condition. A B C D E F here represents the complete attack: the onset of the stage of excitement by gradual oscillations (A B); the period of full development (B C); the passage by gradual oscillations to the phase of depression (C D); the culmination of this phase (D E); and the rapid return to the normal (E F). This normal interval is figured in F A. Then follows a new attack A B C D E F with the same features as the first and followed, like it, by another return to the normal condition F A, etc., etc.

In figure 6, we have what M. Ritti calls *periodical* insanity of alternating forms, and which he considers as the combination in the same individual of an intermittent mania and an intermittent melancholia, while, according to other authorities, it is a third variety of insanity of double form in which an intermission or return to the normal occurs, not only after each complete attack, as in the proceeding form, but also after each phase of the attack. Whichever theoretical conception is adopted, this variety of mental disease is none the less exactly represented here. A B C D is the maniacal phase; D E the consecutive normal condition; E F G H the melancholic

phase; H A the second return to the normal. Then the same cycle is repeated anew under the same conditions.

It will be noticed how all the technical considerations relative to the different forms of generalized insanity are simplified and cleared up, thanks to these diagrams. By their means it is likewise easy to apprehend and appreciate with a rapid glance the differences, so important in a medico-legal point of view, that exist between the various states of lucidity or lucid intervals; the *lucid moment*, which is a transitory return to the normal condition during an attack: the *remission*, which is a simple attenuation of the symptoms of the attack; the *intermission* or *intermittence*, which is a true recovery between two attacks.

The utility of the diagrams is not shown merely in a theoretic point of view and in figuring schematically the diverse forms of generalized insanity. They may also be clinically useful as a record on which to inscribe from day to day the state of patients, permitting us thus to obtain faithful tracings of the attacks that are eminently suggestive. I have adapted it to this use by a very easily made addition of horizontal lines for the record of the curves of the pulse, the temperature, and the respiration, together with that of the attack itself.

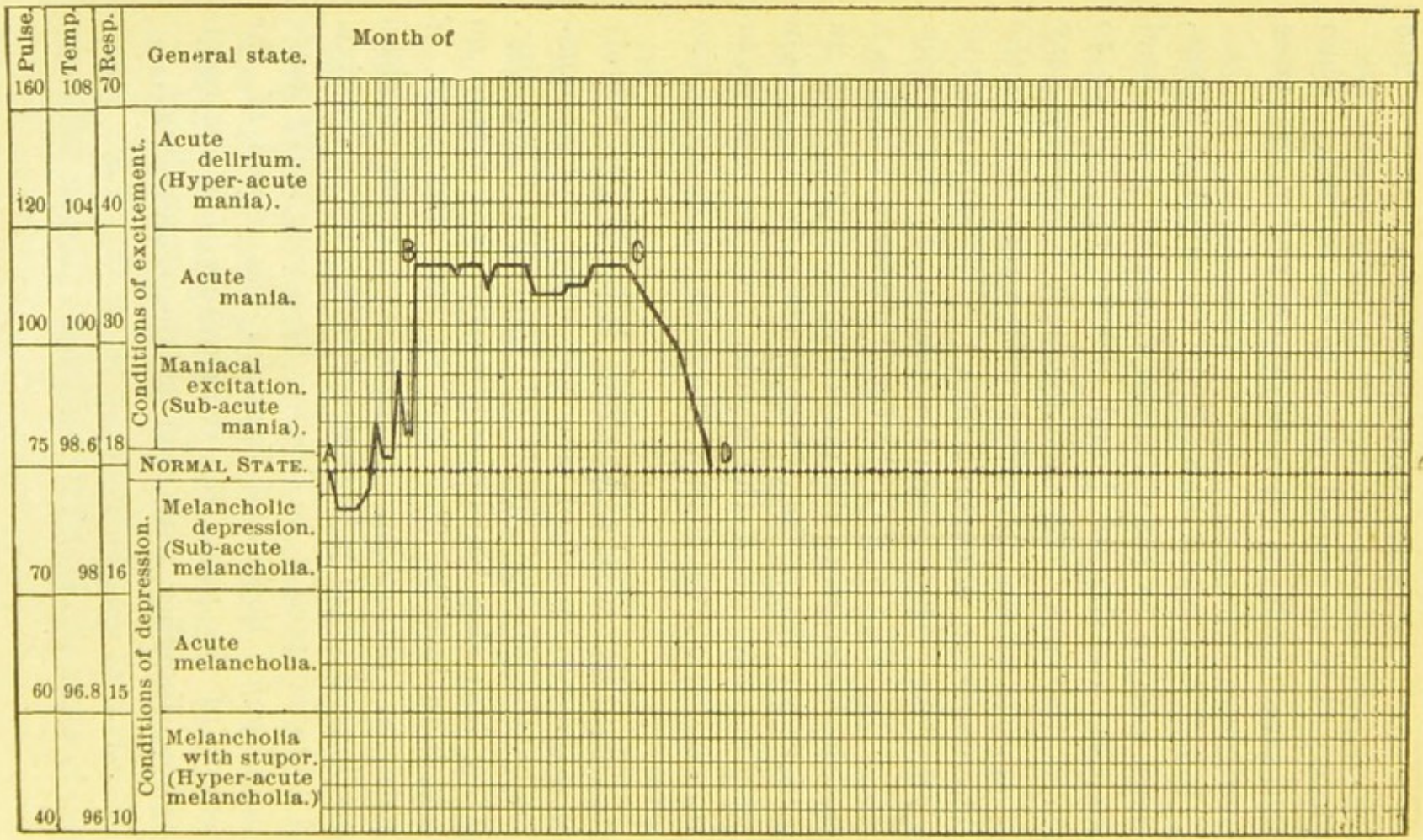
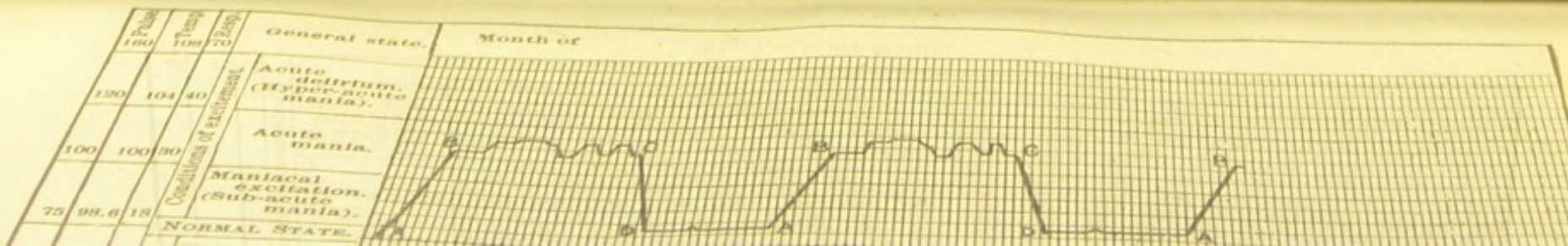


Fig. 1.—Acute Mania.



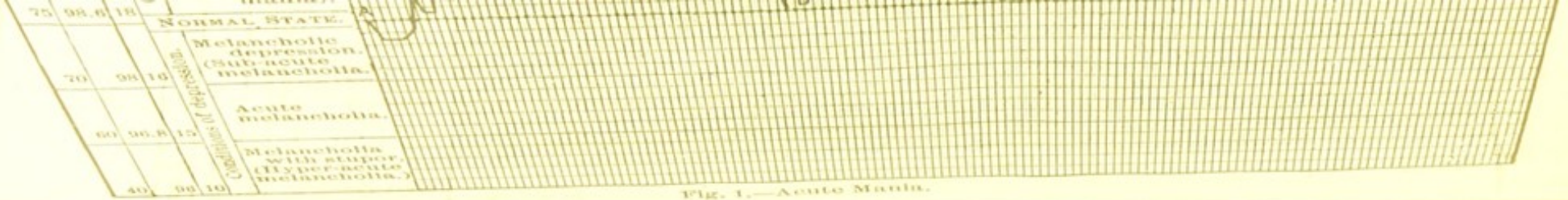


Fig. 1.—Acute Mania.

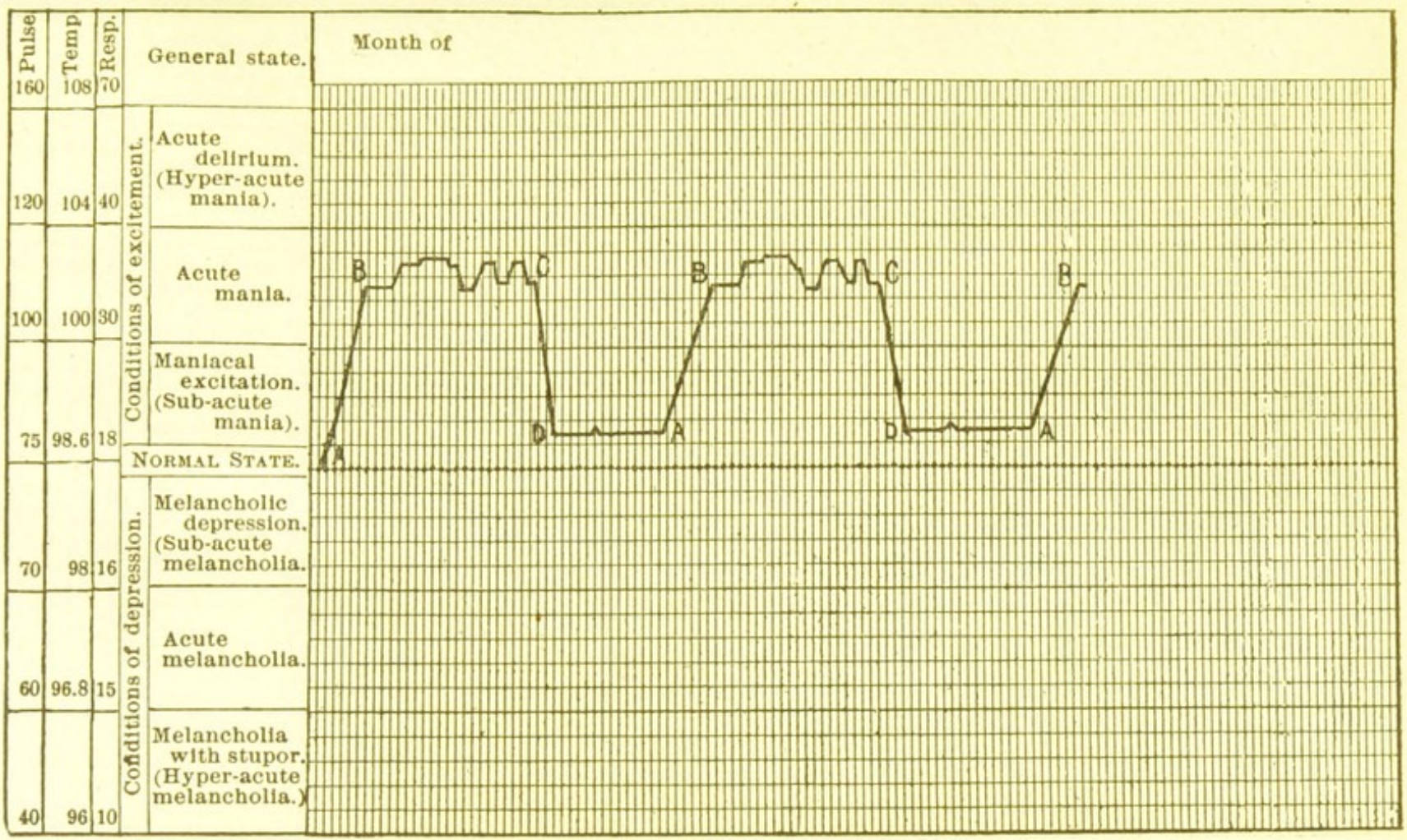


Fig. 2.—Remittent Mania.

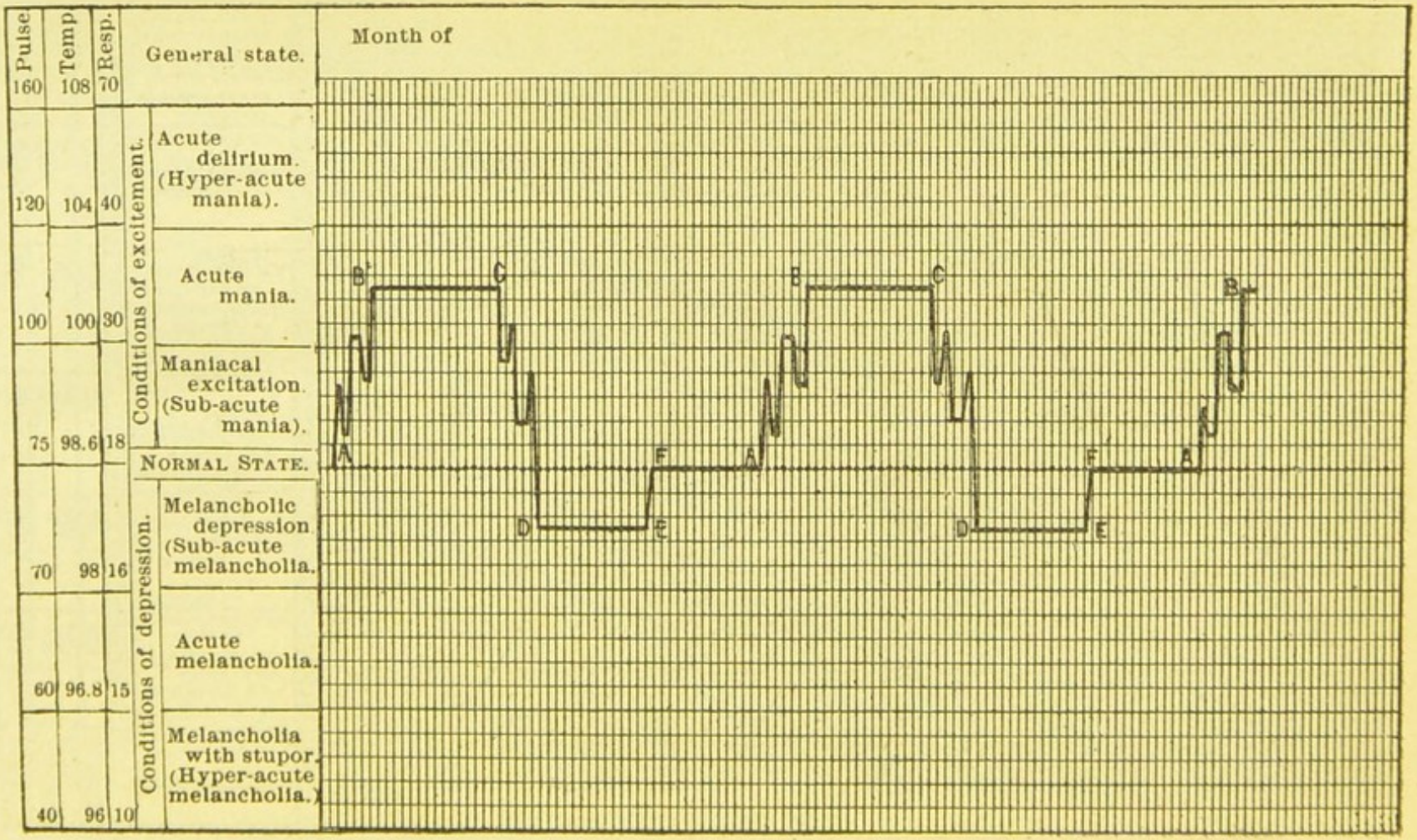


Fig. 5.—Intermittent Double Form Insanity.



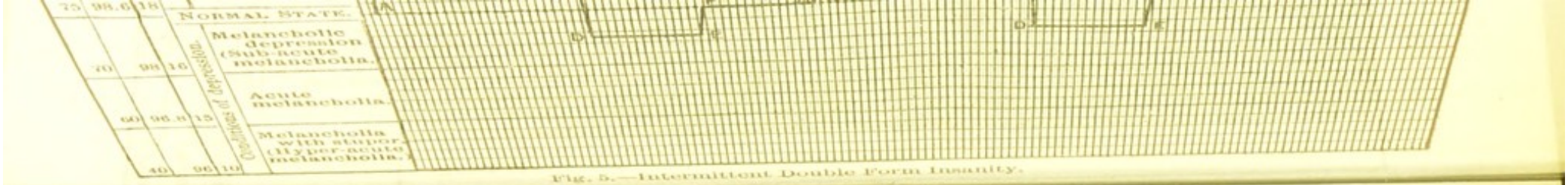


Fig. 5.—Intermittent Double Form Insanity.

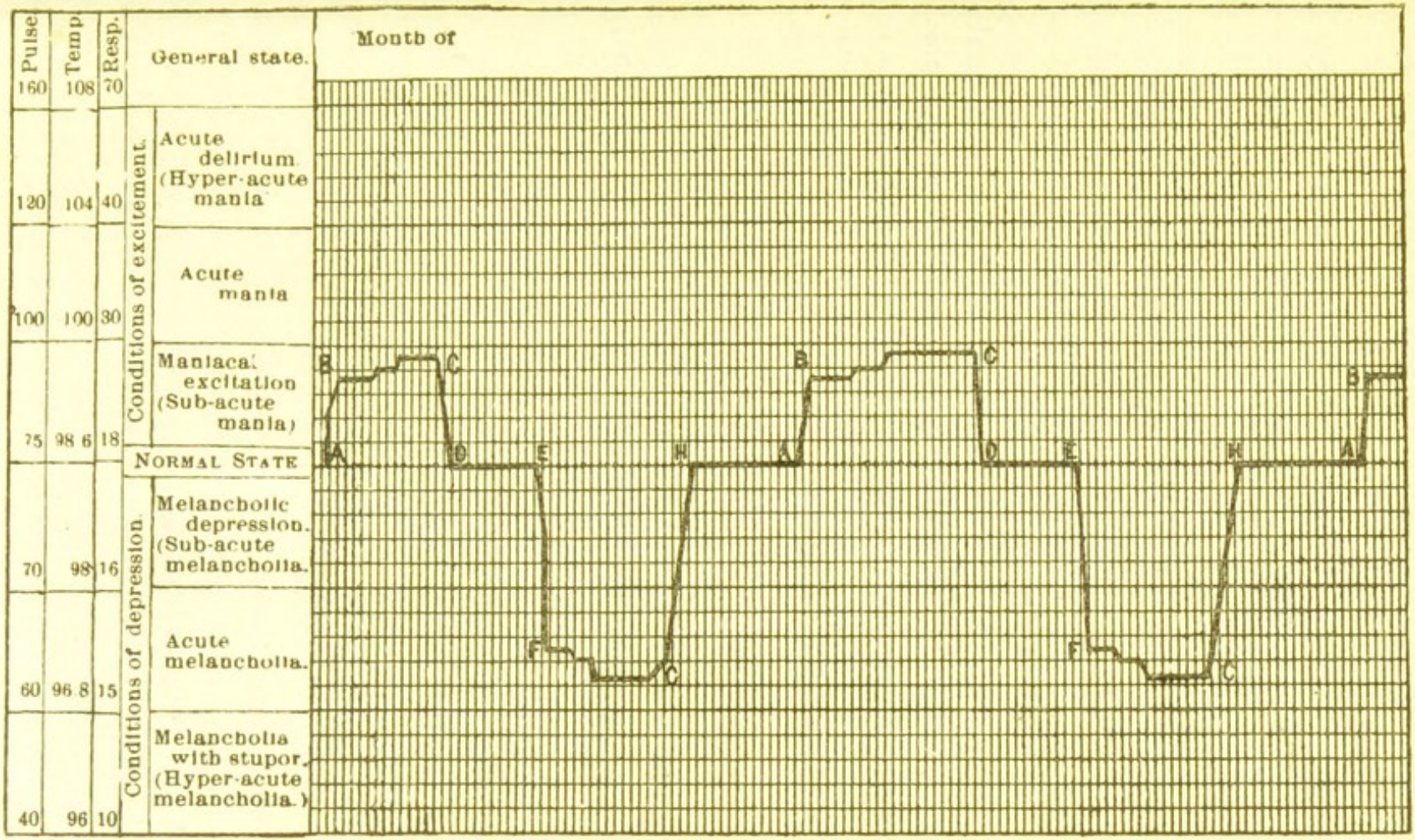


Fig. 6.—Periodical Insanity of Alternating Forms.

Chapter VIII.

PARTIAL OR ESSENTIAL INSANITIES.

§ I. GENERAL REMARKS.

We are already acquainted with the principal differential characters of the generalized and the partial insanities. We are aware that the first are accompanied with a morbid reaction of the general activity, excitement or depression; that they are often curable; and that they form, by their association with other physiological or pathological conditions, the symptomatic insanities. We also know that the partial insanities are not accompanied by any permanent morbid reaction, that they are seldom curable, finally that they are idiopathic or essential, that is to say, independent and autonomous.

When viewed in respect to the form of their delusions, the partial insanities are relatively numerous: they comprise in fact, hypochondriacal insanity, insanity of persecution, religious, political, jealous, erotic, ambitious, etc., insanities. But as we have seen in the chapter on classification, all these names do not, properly speaking, represent distinct entities; they are varieties or rather phases of one and the same disease.

The patient passes first through a state of painful

disquietude, during which he has strange feelings and believes his relations with the external world have been modified, he falls back on himself and busies himself in painful self analysis. With a mental acuteness, the more pronounced since all his faculties are concentrated on one object, he scrutinizes closely all he says and does and all that goes on around him, and he finds in everything, by a course of reasoning more or less logical, some hidden meaning, some reference to his person or his situation. This is the hypochondriacal stage of Morel, the period of inquietude of Magnan, which I myself have called the *period of analytic concentration* or of subjective analysis, on account of the tendency to inductive analysis predominating for the time in the patient. Hallucinations may also occur, but it is in the succeeding period that we meet with them almost invariably.

In this second period, the patient imagines a rational explanation of his sufferings, of his inquietude and of the attentions of which he believes himself to be the object; he finds, as it has been happily expressed, the *formula* of his delusion. If, as he thinks, disturbing incidents multiply about him; if he hears voices insulting him and answering his most secret thoughts; if he smells noisome odors; if he experiences in his body veritable electric shocks; it is because he is the object of the malevolence and animosity of mankind, and of certain persons in particular. Powerful enemies, bent on his ruin,

have organized a conspiracy against him, and have employed for his injury various mysterious agencies, such as magnetism, electricity, the telephone, etc. This is the insanity of persecution discovered by Lasègue, who has given of it a masterly description. Once implanted in the mind of the patient, the delusions gradually assume shape and become elaborated, and come by insensible degrees to form an unvarying theme, a romance of which the patient is at once the author and the hero. This second phase well merits, as we see, the name of *period of delusive explication.*

After a longer or shorter period, sometimes not for many years, an important change occurs in the condition of the patient, who, from being a subject of persecution, becomes ambitious or, as it is called, a megalomaniac. There is here not merely a change of delusions, a new explanation substituted for the former one; the whole personality of the patient is transformed: he is a prince, king, prophet, or even Deity himself. Thus appear ambitious ideas, joining themselves to those of persecution not by simple association, but in a most intimate combination, in such a way as to form a perfectly homogeneous whole in which the two delusional elements enter in varying degree according to the case. From this on the patient remains permanently incrusted in this condition which persists, it may be said, till his death. It is the third and last stage, or stage of *transformation of the personality.*

As regards the fourth period, admitted by M.

Magnan under the name of the period of dementia, it is not, in reality, a phase of the disease, but only one of its modes of termination, as it is of other forms of mental alienation. Many of the partially insane never reach dementia, properly so called, and even when their intellect does gradually become enfeebled, their delusions still survive in their essential characters.

This conception of the typical partial insanity is very correct and corresponds, save in exceptional cases of which we shall speak later on, to the actual facts. But there is more: the other partial insanities, whose existence has been mentioned, may also fall into this synthetic class. Thus religious insanity is not, when closely regarded, a species by itself, but simply a variety of delusive explanation made during insanity of persecution. The same is true of erotic, political, jealous insanity, etc.

The patients in whom we observe these symptoms begin with a period of inquietude or of subjective analysis altogether analogous to that preceding delusions of persecution. It is only when they endeavor to explain to themselves their discomforts that they are separated; some find it in celestial or diabolic intervention (religious delusions), others in the love of some ideal or earthly beauty (erotic insanity), and still others in the intrigues of dynastic parties (political insanity), or of enemies of their conjugal happiness (delusions of jealousy). All these delusional conditions, and other analogous ones,

when they exist, are therefore only simple varieties of the delusive explanation of partial insanity, different statements of one formula, and therefore pertain to the same disease. As evidence of this, they are very often associated with delusions of persecution, and it is not rare to see patients in these pathological conditions, with religious, erotic, political, and even jealous delusions, all revolving around persecutory delusions as a common centre. A still further proof is that all these delusions, have the same point of departure, a phase of hypochondria or of subjective analysis, and also, in the same way, the transformation of the personality or megalomania.

The partial insanities, actually known, form therefore one and the same vesania, which, in its normal form presents a typical evolution in three periods: (1) a period of inquietude or of subjective analysis (hypochondriacal insanity); (2) a period of delusional explanation (persecutory, religious, erotic, political, jealous delusions, etc).; (3) a period of transformation of the personality (grand delirium). We denominate it for this reason, *progressive systematized insanity*. Progressive systematic psychosis (Garnier). Chronic progressive systematic psychosis (Ballet). Chronic delirium (Magnan). Paranoia primaria (Italian). Primäre Verrücktheit (German).

A long discussion took place within a few years in the Medico-psychological society of Paris on the subject of partial insanities. Some, with Magnan, recognized two forms of systematized insanity or, as

they improperly name it, chronic delirium: (1) systematized progressive insanity evolving always in distinct periods; (2) systematized insanity of degeneracy, irregular and atypical. Others, with M. Ball, deny the distinct existence of a systematized insanity of degeneracy, and hold that systematized insanity, progressive itself, has always the pathognomonic evolution attributed to it. An agreement between the two sides was not reached.

At base these two views have each their share of truth, and it may be admitted that there is a typical systematized insanity characterized by an habitual evolution in three periods, with abnormal forms, the principal one of which is that met with in cases of degeneracy.

Moreover, this view of the subject is not new nor special to France, as it has been given long since in the majority of foreign works. The Italians, especially, who include all the systematized insanities under the generic name of *paranoia*, divide them into two very distinct species: (1) *degenerative* paranoia, original or late, according to the epoch of its appearance; (2) *psycho-neurotic* paranoia, primary or secondary, according as it shows itself at once or succeeds a generalized insanity. This semeiological grouping of systematized insanities corresponds, it will be seen, to the division proposed in France: it is even more complete. The Italians have gone so far as to formulate an original theory to explain how systematized insanity may be primary in some

subjects and secondary in others. They pretend, in fact, that systematized insanity is always consecutive to a generalized insanity, of which it forms a more advanced stage; when it appears primarily in an individual it succeeds a generalized insanity in his ancestors; when it is secondary the succession is confined to the one individual.

We have to take up here only primary systematized insanity (paranoia primaria), as we have already spoken of secondary systematized insanity (paranoia secondaria) in the chapters on mania and melancholia. As to the systematized insanity of degeneracy (paranoia degenerativa), it will find its natural place in the descriptions of the mental conditions of degeneracy.

§II. PROGRESSIVE SYSTEMATIZED INSANITY.

Definition.—Progressive systematized insanity may be defined as: a chronic, essential insanity, without disorder of the general activity, characterized by hallucinations, especially of hearing, by delusions tending to become systematized, and ending in a transformation of the personality.

Etiology.—Systematized insanity, we have said, constitutes the essential insanity, the true insanity. Its etiology is also rather limited. In it, accessory causes hardly come in play, it is an integrant part of the individual. The patients receive its germ at birth and it develops at its appointed hour under the

influence of the slightest cause, for example, poverty, difficulties of social life, disappointments, mortifications, conjugal unhappiness, the menopause, etc., etc. That is to say, that the principal cause of partial insanity is heredity. It is well known that it is more frequent in females, celibates, and especially in those born out of wedlock. It affects, by preference, those of a gloomy, suspicious, irritable character, and inclined to pride and misanthropy.

1.—Period of Subjective Analysis.

Hypochondriacal Insanity.

The disorder begins, most frequently, with uncomfortable sensations, functional or organic disturbances, which commence by startling the patient, attracting his attention and leading him to analyze them. These are uncomfortable sensations, for example, headaches, palpitations, buzzing in the ears, and dazzling the eyes. Still more often they are vague uneasinesses located usually in the genital organs or the digestive tract. Sometimes also there are abnormal sensations of cranial constriction, of emptiness of the skull, with difficulty of working, thinking, etc. The patient is unduly disturbed by these symptoms, he studies himself, thinks over all his feelings and finds them increasing. What appears to him most strange is that, besides the bodily symptoms he experiences, he thinks his intelligence is being overturned; his mind acts without his voli-

tion, he cannot control it, and this automatic part of his being may sometimes become so powerful that his thoughts exteriorize themselves and become more or less consciously acted out. There are here, as M. Séglas has demonstrated, actual psycho-motor hallucinations, which are, in spite of the received opinion, among the first symptoms observed in these patients.

Thus far the future paranoiac resembles more or less strongly a simple hypochondriac, for which, moreover, he may be mistaken; but soon, by a natural mental tendency in which he is unlike all other lunatics, he begins to search for a cause of his troubles, not in himself, but externally. This is, it may be said, the first step of his psychic evolution, which may in some cases be manifested at once without any preceding hypochondria.

From this time on the patient extends his investigation to his surroundings, and refers to himself every thing that he hears or sees around him (*autophilia* of Ball). It seems to him that persons and things are altered, that people look at him, make signs and whisper when he passes; everything said has a double meaning, he cannot find things in their places; he is unable to work; his business goes wrong; nothing succeeds with him.

Always keeping to himself the result of his thoughts, he becomes more and more gloomy and sometimes feels even driven to suicide; but these are only temporary discouragements to which the para-

noiac rarely succumbs; he usually resists them, accepts the battle against fate, seeks to find out more, and becomes more and more wrapped up in his morbid investigations.

Reviewing his whole former life, he finds trivial incidents that seem to him significant, and, which, taken together, convince him that he has long been the object of a hidden animosity.

By this time, however, sensory disorders have made their appearance, if indeed they have not all along existed. Sometimes they are false auditory sensations, plaintive cries, sound of bells, detonations, confused voices, repetition of his thoughts; sometimes they are false olfactory or gustatory sensations; and again, various disorders of the tactile or genital senses.

With these new elements in operation, the delusions make rapid progress, and the second period of the disorder soon appears.

2.—Period of Delusional Explanation.

(Insanity of Persecution. Lasègue's Disease.)

This type of insanity, first studied in 1852 by Lasègue, whose description is still authoritative, consists essentially in the development and progressive systematization of the tendency of the patient to refer everything to the hostility and malevolence of others. Although its symptoms are far from being absolutely identical in all cases, the following is the usual course of the disorder.

At first the delusions are confused. The patients believe that there is ill will toward them, that is all. They do not know by whom nor why nor how. *They*, is their habitual expression. "They wish me ill, they insult me, they trouble me, electrify, poison, violate, throw bad smells on me," they say. Then, some quickly, others more slowly, select in their past life, their customary occupations or their mode of living, some special fact that draws their attention to such and such a group of persons, or even to a single individual. Some, according as they have previously had their attention drawn to the idea of the police, free masonry, the Jesuits, etc., attribute what they call their troubles to the police, free masons, and Jesuits. Others, who have already enemies or simply those whom they distrust, make them the responsible authors of all the evil that happens to them. A conspiracy has been made against them, they say, into which have entered neighbors, servants, relatives, friends, frequently also unknown individuals; sometimes a whole town is moved against them, and the patients believe everything they see or hear is directed against them; they interpret everything according to their morbid ideas. In this is the first step toward the organization of the delusions. As regards the explanation of the proceedings of their so-called enemies, it is at base almost invariably the same. In the presence of phenomena for which they can not give a natural interpretation, the patients seek to account for them

by the most extraordinary ways. Holes are made in the wall to speak to them, to address insults to them, to blow irritating powders and evil odors through, to electrify them; electric batteries are put up in their vicinity, or even in their chambers, also acoustic tubes and telephones, with the aid of which their enemies insult them and produce in them all kinds of disagreeable sensations.

During this time the hallucinations multiply; if heretofore they were psychic or psycho-motor, they now become fully psycho-sensorial. The voices are clear, plainly insulting; they are heard not only at night and at intervals, as in the beginning, but also during the day and almost uninterruptedly, sometimes in only one ear (unilateral hallucinations), generally in both; they use coarse language, injurious epithets, slang, and whole sentences in which accusations, insults and threats predominate. Very often at this time, sometimes even from the beginning, as we have seen, there occurs a curious hallucinatory phenomenon, the *echo of the thoughts*. The patient hears his thought distinctly uttered as soon as it arises, not in a loud tone, but in a sort of more or less variable internal voice: and he then believes that others also hear them which is to him an inexpressible torture, since the thoughts he most desires to keep secret are those most distinctly heard. He perceives that others hear his thoughts since they respond before he has uttered them, and because he hears mentioned facts of his past life which were

only known to himself, etc., etc. This phenomenon, so marvelous to him, he explains by the intervention of electricity, the telephone, or phonograph; sometimes he comes to imagine that this voice that he hears in him belongs to another individual, and this I believe to be the usual starting point of that curious pathological condition known as duplication of the personality.

In reality the echo of the thought is only a pathological manifestation of that which psychologists have called animated internal speech (Egger, Stricker), Ballet, *motor representation of articulation*, and finally that called by Séglas *verbal psychomotor hallucination*. The patients unconsciously form in speech their thoughts, and some (Régis, Séglas), are conscious of rudimentary movements of the tongue and lips that accompany the production of the mental phenomenon.

In some cases, but usually at a much later period, the patients hear voices in each of the two ears (double hallucinations. Magnan). On one side he hears disagreeable things, insults and threats; on the other, agreeable words, encouragement and advice. These two kinds of hallucinations constitute for the patients, says Séglas, the attack and the defense.

As Laségue has justly remarked, hallucinations of sight are very rare in the insanity of persecution. The patient hears his enemies, recognizes more or less fully their voices, but generally does not see them. His false visual sensations, when he has them,

consist mainly in hostile apparitions, in grimacing figures, in writings full of threats, in changes of ap- appearance of persons and things, which he accuses his enemies of making him see by their machinations. It is exceptional that visual hallucinations occur in any connected fashion, at least when not complicated with other pathological conditions, such as alcoholism or hysteria.

On the other hand, the sense of smell, that of taste, and especially the sense of tact, and what we call the general sensibility, internal or external, play a great part in the delusions. The patients smell odors of manure, of sulphur; they have the taste of arsenic, copper, or phosphorus in their mouths, whence they conclude that attempts are made to poison their food, and this drives them sometimes to sitiophobia or, at least, to only eat certain substances and from certain dishes. Lastly they experience all kinds of extra-ordinary sensations. They feel spasms produced throughout their bodies, cramps, blows, torsions, burns; they have had their stomachs torn out, their abdomens opened; gas is blown into their bowels; foreign bodies are introduced into their sexual organs; they are outraged, sodomized, masturbated, their semen is drawn off, etc., (genital persecutory cases). All these sensations are infinitely variable, and the expressions by which the patients describe them are as typical as they are impossible to reproduce.

At this time the patient begins to act as a per-secutory case. Nearly always his first act is a com-

plaint. He addresses himself orally, but by preference in writing, to the public authorities to have the persecution of which he is the object discontinued, and especially to the police, the public prosecutor, sometimes even to the minister of justice or to the President. It is such individuals as this that weary all the magistrates, greater and lesser, with their demands, and assail them with the most voluminous briefs. At the same time they frequently change their residence to escape from their tormentors and to remove themselves from their operations (*alienés migrateurs*. Foville). But they change places or hide themselves in vain, the persecutions follow them everywhere.

After having made vain efforts to obtain justice, and after having, so to speak, exhausted all jurisdictions, the patients attempt to secure justice for themselves. Now they enter upon a new phase, that of active conflict, which Laségue has defined perfectly by saying that from being subjects of persecution, they become persecutors themselves.

The greatest peril any one can incur is to be taken by a persecutory lunatic for the head of the conspiracy that surrounds him, for the person against whom he must avenge himself; a peril that is the greater, since the victim is ignorant of it, and the patient in full possession of his mental resources, puts in the service of his enmity an astuteness and a cruelty truly Machiavellian. This situation is not without analogy with the legendary Corsican vendetta, but it is

still worse. At the moment when he least expects it, when everything is peaceable and tranquil, an individual finds himself attacked suddenly by a person he does not know, often one he has never seen and to whom he has done nothing whatever. Sometimes even, the patient, without having his persecutor definitely fixed in his mind, attacks whoever he first meets, under the influence of a hallucination of hearing or a morbid impulse. It cannot be too often repeated: that, equally with the epileptics, and possibly even more than these, the persecutory insane are, of all lunatics, the most dangerous. The greater part of the crimes committed outside of the asylums by the insane, and nearly all those committed within them, are to be credited to this class. Moreover, it is not only homicides that they commit; they may attempt arson, poisoning, and occasionally, contrary to general opinion, and in exceptional cases, suicide. Whatever their acts may be, they very frequently assume the impulsive character.

During all this time the patient is more and more wrapped up in his delusions, which, having taken definite shape, become systematized, and, as we may say, crystallized, and, except in some very slight variations, remain thereafter unchangeable. If he has not yet created any neologisms to express his conceptions, he does so now, and inserts in his remark a a greater or lesser quantity of odd and unknown terms by means of which he expresses his delusions, or designates his persecutors. This pathological lan-

guage is the best evidence of the chronicity of the delusions, and, if there had been any hopes of recovery, they have to be dismissed when it appears.

The character of the persecutory paranoiacs is generally bad. They are suspicious, quick to take offense, cold and harsh in their manner, short and surly in their speech; they answer questions addressed to them impolitely, and often limit themselves to a few very characteristic phrases, such as: "I have nothing to say to you; you know it better than I," which seem to carry the idea that the questioner has had occult communications with them, and that their thoughts have been heard.

Further, the majority of these patients are reticent to the highest degree, and if some of them choose to make public their grievances by speech or writing, the greater number keep them to themselves and give no outward demonstration of their hallucinations and their delusions. An extensive experience and a certain amount of tact are necessary, therefore, to enable one to overcome their obstinate mistrustfulness, and penetrate the mystery of their conceptions. They exhibit to a large extent the general appearance and special physiognomy that has been described as connected with hallucinations of hearing in the second chapter of this work. Very often, they may be seen in silent converse, or even replying to themselves, smiling or frowning at their own remarks, answering them, or giving way under their influence to sudden acts of eccentricity or violence. It is

more particularly on account of the persistence of these hallucinations, and the passive obedience in which they live to them, that the persecutory insane are subject to sudden impulses and consequently are essentially dangerous patients.

After a longer or shorter period, of some weeks or months, and still oftener of several years, the paranoiac tends gradually to attain that condition which is the culmination of his disease, that is the transformation of his personality.

This is brought about in two different ways: it either occurs suddenly under the influence of a hallucination or suggestion that reveals to the patient all at once, his royal origin or his character as an exalted personage; or it occurs slowly, through the logical evolution of his delusions that ends in convincing him that, since every one is against him, he must necessarily be a person of some consequence. In either case the result is the same, a new personality comes on the stage whose presence is announced by ambitious or exalted notions that begin to appear amid the delusions of persecution that had heretofore alone existed. At this moment the patient enters upon the third stage of his disorder.

Mystical Delirium (Religious Insanity).

Another delusional type, that may characterize, as has been stated, the second period of the disorder, of partial insanity, is that of delusions of a mystical

or religious nature. Fundamentally this condition is the same as that described, and the same events unfold themselves; the delusive explanation only is changed. Instead of charging his extraordinary sensations to human intervention, the patient attributes them to divine agency. That is all the difference. However it may be, whether predisposed by their birth, their natural disposition, their education, their ignorance, or their profession, to be influenced by religious or superstitious ideas, some patients, who have experienced, during the earlier stage of their disorder, the same symptoms as those who afterwards suffer from persecutory delusions, are gradually led to attribute these phenomena either to sorcery or to a divine or diabolic influence. The voices they hear seem to them to be those of God or of devils; their *bizarre* sensations are proofs to them that they are punished from heaven or are persecuted by sorcerers. Almost invariably, and this is a special symptom of mystic delusions, the patients present internal illusions of a sexual nature, which they interpret in various ways, but always according to their delusions. The men think they are subjected to carnal temptations, sent from Deity to test their virtue; the women imagine that they have secret relations either with God or the devil, and say that they are pregnant by one or the other. Hence come the delusions of a mystic nature relating to celestial or infernal powers, which, in the epochs when religious insanity raged as an epidemic, have given rise

to all the subdivisions and designations of *theomania*, *demonomania*, *demonolatry*, *incubi*, *succubi*, *etc.*

Whatever shape they may take, mystical delusions progress in the same fashion as those of persecution. They are based on morbid sensations, especially hallucinations of hearing and disturbances of general sensibility, internal or external. Like persecutory delusional insanity, this type evolves slowly and tends gradually to systematize and crystallize itself, to reveal itself by more and more coördinated conceptions and a pathological language full of neologisms and odd expressions. Frequently, indeed, the delusions show a mixture of mystical and persecutory ideas, so that the patient belongs at once to both categories. Thus we have some cases of partial insanity who believe they have divine revelations and have commerce with Deity or with the Virgin Mary, and who, feeling themselves charged with upholding the true faith, consider as their enemies and agents of the devil bent on their ruin, all sorcerers, free masons, Jesuits, priests, the members of their own family, or this or that other person whom they consider as their persecutors.

Mystic delusions are more often accompanied with visual hallucinations than are those of persecution, and in this they seem to have rather close relations with hysteria.

Aside from these special features the conditions are the same, and while not as positively dangerous as the persecutory insane, the mystics very often com-

mit barbarous or criminal acts, based on their delusions or hallucinations. Sometimes they go from town to town, catechising, preaching, threatening the divine anger and the vengeance of heaven, and even attempting violence against the enemies and detractors of religion; sometimes they extol self mortification and the most shocking mutilations, which they practice upon themselves and urge their followers to perform, thus founding more or less extended religious sects (skoptzi, etc.); sometimes, obedient to the voices they hear, they attack this or that person who seems to them to take the part of a demon; and finally, they often attempt to repeat the sacrifice of Abraham, and immolate upon the altar their own children.

In these cases, as in the persecutory ones, the transformation of the personality is gradually accomplished, and in the same manner. It occurs either suddenly as a consequence of the hallucinations, or slowly as, in the progress of the delusions, they come to believe themselves important personages in the religious world, charged with a divine mission, destined to reform the world, to represent the Deity; sometimes they imagine themselves to be Christ, Antichrist, the Virgin Mary, or even God himself. They then, like the persecutory paranoiacs, enter into the third period of their disorder.

Erotic, Political Jealous Insanities.

It seems useless to here enter into a detailed description of the erotic, political or jealous delir-

iums. In fact, it is rare for them to appear singly and as distinct forms of systematized insanity. Generally they are only psychological modalities of the insanity of persecution. The patients, for example, in whom sexual hallucinations predominate, are naturally led by that fact to build up delusions of persecution of a specially sexual or erotic nature, in which they charge one or many of their enemies with attacks on their chastity, with rape, and with all sorts of outrages, on which they dilate with the greatest satisfaction. Others see political enemies everywhere, they take him for a conspirator, they watch, spy on him, lay informations against him, try to have him arrested and imprisoned. Another thinks that every one is trying to seduce his wife; he cannot see any one near her without thinking his motive is to betray or deceive her: he follows her, sees evil in her least actions, quarrels with her, threatens her, and often goes so far as to attack her in a more or less violent manner.

Fundamentally all these are only varieties of persecutory insanity, which are usually combined, either singly or together, with it, more or less intimately, except only in degenerative cases in whom they may constitute a species apart.

I have had under observation for five years, a patient who is very typical, inasmuch as her systematized insanity is composed at the same time of delusive ideas and hallucinations of persecution, erotism, politics and religion. From the fusion of all these

elements there results in her case a protean persecutory delirium, but one not differing in its characters and evolution from the classic type. I have been very curious to know how it would terminate in exalted delusions, if it reached that stage, and have always thought that it would take a political coloring, from the greater predominance of conceptions of that nature over the others. This is what is being at present effected, as the patient who has for years been "insulted by the Republic," has during a few months begun to affiliate herself to the royal family under the characteristic designation of "Marie Antoinette."

3.—Period of Transformation of the Personality.

Ambitious Insanity.

As persecuted, erotic, mystic, political, or jealous, the partially insane reach, by apparently different routes, the third period of their pathological condition, which consists, as we have stated, in the transformation of their personality, revealing itself by characteristic ambitions or exalted delusions. This, at first only a few ideas of pride, lost amid the notions of persecution, rapidly develops and becomes more concentrated, and mingling with the pre-existing delusions, the patient at a certain stage presents the phenomenon of the manifest co-existence of persecutory and exalted delusions, revolving in this vicious pathological circle, that he is of conse-

quence because he has enemies and that he has enemies because of his greatness. Soon, however, the exalted notions begin to predominate and to gradually crowd out those of persecution, which undergo a regressive course and become more or less confused; so that the period soon arrives when the persecuted individual becomes a *megalomaniac*, a happy expression, that describes this new condition very aptly, provided, however, that no signification is attached to the terms *maniac* or *monomania*, since this condition has nothing in common with mania.

During all this period the hallucinations persist, and it is only after a long time, and when dementia begins to appear, that they become gradually weakened or diminished.

The patients continue, for the most part, to be egoistic, haughty, and vicious. They have, however, at this time, a characteristic peculiarity, viz., that they make themselves up, after their own fashion, in the costume of the personage they believe themselves to be. These are the patients we see in asylums rigged out in plumes, bits of cloth of striking colors, crosses, medals, chaplets, and tinsel of every description; they frequently do up their hair and beard in a special and characteristic manner. Nothing is more common than to see those whose head and countenance recall, for example, the conventional representation of the head and face of Christ. All these patients are haughty, dignified and majestic in their attitude, and they do not lay

aside for an instant their serious or solemn air. We might say that they are tragedians in some royal *rôle* who continue to play their part in public and in their appropriate costumes.

This period of ambitious insanity lasts indefinitely, up to the time when dementia appears and enfeebles the mind, and gradually plunges all the vain conceptions of the patient into a chaotic nothingness.

Course. Duration. Termination.—The course of systematized insanity is essentially a chronic one, with or without remissions, and it covers the whole period of the patient's life from the moment of its development.

Foreign authors have, nevertheless, described an acute form (paranoia acuta) to which they seem to attribute a considerable importance and frequency. With us this form has never been described. If it really exists as a distinct variety, we can say that it is rather rare.

The duration of each period is exceedingly variable, according to the case. In some the hypochondriacal stage is very long; in others the megalomania occurs almost at the beginning of the stage of delusive explanation, so as to seem sometimes primary. It may happen also that the first stage, short and not pronounced, passes unperceived, or that the patient makes the second, so to speak, indefinite, continuing to have his mystical or persecutory delusions till he finally dies without having undergone the terminal

transformation of his personality. At bottom these are all only apparent individual variations of the normal evolution, in which we can always discover more or less distinctly the typical progress of the malady.

The usual termination of systematized insanity is in dementia, except in the acute form which is more curable. The dementia is, however, very late in appearing, and the patients may continue in their delusions 15, 20, or 25 years without presenting any marked enfeeblement of their intelligence. Moreover, even after dementia has supervened, they still preserve evident traces of their delusions and vestiges of their hallucinations, which give a peculiar character to their dementia (ambitious dementia).

Death usually occurs from some complication, or some intercurrent disorder, and rather frequently from cerebral hæmorrhage.

Prognosis.—It is not needful to state how serious is the prognosis of chronic or typical systematized insanity. When once fairly established it is almost always incurable. It is only during the early stages when the delusions have not yet become stereotyped, that we see recovery or at least a temporary amelioration.

Pathological Anatomy.—Pathological anatomy is ordinarily silent. Nevertheless we find after death more or less marked cerebral atrophy. This, how-

ever, is only a terminal lesion explainable by the fact of long duration of the disease, and is, moreover, not peculiar to it, since it is met with in the majority of cases of insanity of long duration.

Diagnosis.—The diagnosis of systematized insanity, rather easy to be made when the disorder has attained its culmination, may present difficulty in certain cases. It may happen, for example, that, on account of the reticence of the patients and their skill in concealing their delusions, as well as the lack in them of any general pathological reaction, they are mistaken for persons of sound mind. This error is rather frequently committed by the public, who have a very different idea of what is insanity. To avoid it, it is necessary to proceed in the examination of these patients with all possible tact and carefulness.

In the beginning of partial insanity, when it still is comprised only of hallucinations and vague hypochondriacal and persecutory delusions, it may be mistaken for an attack of delusional melancholia. We have already laid stress on differences between partial and generalized insanity, especially melancholia with delusions of persecution, and need not review them here. It should be remembered, however, that melancholiacs are contrite and paranoiacs rebellious. The ambitious delirium of the later stage of partial insanity must also not be confounded with that which may appear in maniacal excitation.

Besides the facts that the former is accompanied with none of the general symptoms that characterize mania, that it is systematized and coördinated, we also know, as has been especially shown by Achille Foville, that it is not primary and that it is habitually accompanied by hallucinations, which are never present in the ambitious delirium of maniacal excitement. There are still better grounds for distinguishing the megalomania of systematized insanity from that of general paralysis. Besides the history of the case, the characters of the evolution of the delusions, so different in the two cases, and the presence or absence of the physical signs of paralytic dementia, ought to be sufficient to relieve all doubts.

There are cases of incipient systematized insanity where the patients, under the influence of their troubles, take to drink, so that a sort of more or less acute alcoholic delirium may mask, or at least modify, the delusive conceptions that form the basis of the affection. Such patients are commonly taken for simple alcoholic cases, and surprise is felt when, as the toxic delirium disappears, there is unmasked an insanity of persecution which thereafter progresses through its successive stages. One ought always, therefore, to be reserved in the prognosis and suspicious of cases of alcoholic insanity with delusions of persecution and especially with predominating hallucinations of hearing.

Treatment.—The treatment of partial insanity can hardly be more than palliative. It is limited to

isolation, which is needful in almost all cases on account of the essentially dangerous character of the malady. Moral treatment is ineffective, or nearly so, in this disease. One is limited to the treatment of complications and to watching with especial care to prevent the patients, as far as possible, from committing the dangerous acts to which they are so often inclined.

SECOND CLASS

CONSTITUTIONAL ALIENATIONS.

(Degeneracies, Deviations, Mental Infirmities).

Chapter VIII.

FIRST GROUP

DEGENERACIES OF EVOLUTION.

(Vices of Organization).

I—Psychic Discordances (*Désharmonies*). (Defect of Equilibrium, Originality, Eccentricity). II—Neurasthenias. (Fixed Ideas, Impulsions, Aboulias). III—Phrenasthenias. (Delusional, Reasoning, Instinctive). IV—Monstrosities. (Imbecility, Idiocy, Cretinism).

The degeneracies of evolution, or vices of psychic organization, differ from the insanities in that they involve the intellect in its constitution itself and not merely in its mode of activity. They represent anomalies of the organ, the insanities being the disorders of its function.

From this fundamental point start all the other differential characters which may be summed up as follows:

The degeneracies of evolution are not mere accidents of psychic life, but are genuine original defects, usually involving the whole race (hereditary insanity in that of degeneracy: Morel, Legrand du Saulle, Magnan). They show themselves also in the physical organization, as well as in the mental, by embryogenic deviations or malformations, that go under the name of *stigmata* or degeneracies, (Morel, Magnan). These malformations or stigmata are essentially indelible, and may be accompanied by various, more or less lasting, neuropathic or phrenopathic disturbances (episodic syndromes: Magnan).

The degeneracies of evolution include four genera or progressive degrees: (1) Psychic discordances, *désharmonies* (defects of equilibrium, originality, eccentricity); (2) Neurasthenias (fixed ideas, impulsions, aboulias); (3) phrenasthenias (delusional, reasoning, instinctive); (4) monstrosities (imbecility, idiocy, cretinism). We will examine successively each of these divisions.

§ I. PSYCHIC DISCORDANCES.—DISHARMONIES.

(Defects of Equilibrium, Originality, Eccentricity).

The disharmonies form, so to speak, the transition between the normal and the pathological conditions. They are the border ground on which we find individuals, intelligent and sometimes even brilliantly endowed, but mentally incomplete and already the bearers of a blemish that reveals itself by a defect

of harmony and poise between the various faculties and inclinations. We can distinguish as types of these: the ill-balanced, the original, and the eccentric.

The Ill Balanced. (*Déséquilibres*).—These are abnormal individuals characterized by an unequal assemblage of deficiencies and excess in their psychic elements.

From their infancy they are marked for their precocity, their aptitude to perceive and comprehend, and at the same time for their capriciousness, their wayward disposition, their cruel instincts, and their attacks of violent and almost convulsive passion. At the period of puberty they suffer from nervous troubles such as chronic or hysteriform disturbances, migraines, neuralgias, convulsive tics, simultaneously with transitory spells of excitement or depression, with exaggeration of certain psychic or emotional tendencies (mysticism, onanism, vague sexual aspirations, desire to travel, or for conspicuous actions).

After maturity they are complex beings, heterogeneous, made up of disproportioned elements, contradictory qualities and defects, and as over endowed in some directions as they are deficient in others. Intellectually, they often possess in a very high degree, the faculties of imagination, of invention, and of expression, that is to say, the gifts of speech, the arts, and poetry; on the moral side, they possess a singular emotivity, or rather, sensibility. What they lack, more or less completely, is good judgment,

the moral sense, and especially continuity or logical consecutiveness, a unity of direction in intellectual production and the actions of life. It follows, that in spite of their often superior qualities, these persons are incapable of conducting themselves in a rational manner, of following regularly the exercise of a profession that seems well beneath their capacity, of looking after their interests or those of their families, of carrying on business prosperously, or of directing the education of their children: their existence therefore, constantly recommencing, is one long contradiction between the apparent wealth of means and poverty of results. They are the utopians, the theorists, the dreamers, who are enamored with the best things but accomplish nothing.

The public which sees only the brilliant exterior often looks upon these individuals as artists and superior beings. The medal is reversed, however, to those who are compelled to associate with them and share their existence; they see their defects, their incapacities and evil tendencies, of which they are not merely the witnesses, but also the victims.

Aside from their lack of mental poise these individuals also display an excessive emotional sensibility and an enfeeblement of psychic energy that reveals itself by a noticeable predominance of spontaneity over reflection and volition. Hence their inability, their instability, and their irresolution; hence also their alternations of apathy and activity, of excitement and torpor, their violent attacks of passion

and their cries of despair for the most trivial and slightest reasons.

In certain cases, finally, we can already distinguish in them the existence of some of the physical signs that characterize the conditions of degeneracy.

ORIGINALITY—ECCENTRICITY.—The psychic disharmonies exhibit themselves in a more marked degree, besides the lack of balance above described, in certain morbid peculiarities that pass under the names of singularities or eccentricities. These are isolated anomalies, manias as they are properly called, that are shown in the external habits, in a style of dress, of wearing the hair, of walking, of writing, or of speaking perhaps in an odd gesticulation, a phrase, or *tic*, or a grimace. Frequently, also, originality reveals itself in an imperious overmastering tendency which impels the individual in a definite intellectual or emotional direction to the exclusion of any practical or useful occupation: leads him, for example, to surround himself with birds, flowers, or cats, to make collections of insignificant objects, to become absorbed in ridiculous investigations, calculations, or researches. He may have singular emotional tendencies, irresistible attractions for, or fear of, such and such an animal or object. Excessive prodigality, sordid avarice, religious or political exaltation, erotic excesses, causeless falsehood, a spirit of intrigue or duplicity, the passion for gambling or drinking, hypochondria and misanthropy, are also

often observable in these individuals, who are commonly known to the public under the names of eccentric persons, maniacs, and cranks.

It is hardly necessary to state that all these cases, being at most only somewhat abnormal, live at liberty in society, and that they are never met with in asylums, at least, except as they may happen to be accidentally taken with an attack of insanity.

§ II. NEURASTHENIAS.

(Fixed Ideas, Impulsions, Aboulias.)

The term *neurasthenia*, invented by Beard in 1868, and accepted to-day by most writers, is a generic term applied to all the morbid conditions essentially characterized by exhaustion of the nervous system (nervous exhaustion). It is what has been called according to the periods and the cases: *nervosism*, irritable weakness, spasmodic conditions, nervous asthenia, proteiform neurosis, nervous marasmus, hystericism, spinal irritation, hypochondria, cerebro-cardiac neuropathy, cerebro-gastric disease, etc., etc. It is, therefore, not a disease but a group of diseases, a sort of diathesis with a most varied symptomatic expression.

According to the predominating phenomena, many forms are to be distinguished, the principal ones of which are: the cerebral form (cerebrasthenia); the spinal form (myelasthenia); the cardiac

form (cerebro-cardiac neuropathy); the gastro-intestinal form (cerebro-gastric and intestinal neurasthenia); and lastly the genital type (sexual neurasthenia).

The essential cause of neurasthenia is heredity. This, which takes its source in the different diatheses, notably in the neuroses, the psychoses, alcoholism, arthritism, syphilis and tabes, induces from the beginning in the subjects, a special condition of degeneracy of the nervous system, upon which, under favoring conditions, the malady develops. Occasionally, it is true, hereditary taint may be lacking, and the neurasthenia seems to be due to a purely accidental cause, like a moral shock or the traumatism of a *railway spine*, for example; but even in these cases it is unusual if there did not exist a more or less latent original predisposition.

As occasional causes we have all the circumstances, physiological or pathological, moral or physical, capable of either suddenly or slowly producing nervous exhaustion: puberty, troublesome pregnancies, local disorders of the uterus and intestines, typhoid fever, hæmorrhage, venereal disorders, onanism, continence, and sexual excess, mental strain, great fatigue, and excessive mortifications.

While neurasthenia is protean in its manifestations, there are still certain symptoms rarely in default, which, for this reason, have been called by Charcot *neurasthenic stigmata*. These are: a special form of headache (*casque neurasthénique*) and

a sensation of emptiness in the head; insomnia and disturbed sleep; psychic adynamia; motor enfeeblement; spinal hyperæsthesia and rhachialgia with points of election (*plaque cervicale*, *plaque sacrée*, and coccygodinia); gastro-intestinal atony; genital and vaso-motor disorders.

Cerebral Neurasthenia (Obsessions.)

Cerebral neurasthenia the only form with which we have to occupy ourselves here, is that form in which psychic troubles predominate. Based essentially upon an impotence of the will, with preservation of the intelligence, properly so called, it shows itself in fixed ideas, obsessions (or besetments), active or negative impulses, all with full consciousness and reasoning powers, but irresistible and anxious. It comprehends consequently a host of conditions scattered here and there in the nosology under the names of lucid insanity, insanity with consciousness, reasoning and impulsive monomania, psychic syndromes of the degenerates, rudimentary paranoia, etc., etc.

These different designations indicate serious divergences of doctrine, and psychic neurasthenia is far from being universally accepted to-day under the label and aspect we have described. According to some, it is still a form of insanity, differing from the other forms only by its characters of consciousness and lucidity (Ball); according to others, it is a mental symptom of neurasthenia (Beard); some con-

sider it an elementary psychic disorder analogous to hallucinations, and liable to be observed in all neuroses and insanities (Pitres); and finally, according to some, it is a sign of degeneracy, not appertaining to neurasthenia except as a complication (Charcot, Magnan).

In our view, emotional obsession is especially a symptom of neurasthenia, having, it is true, close relations with degeneracy, but only indirectly and through the neurasthenia, when that is of a degenerative character, as is usually the case.

It is, in fact, certain that in the vast majority of cases the psychic neurasthenics are also degenerates. Their degeneracy, which is, as we have stated, almost always the result of heredity, reveals itself not only by a defect of equilibrium, but often also by more serious symptoms, true *stigmata*. Mentally, they are generally persons of intelligence, bright and quick witted, but timid, lacking in energy, weak willed, and endowed with a very pronounced emotional sensibility. In early life, but especially from the age of puberty, they begin to show oddities, *tics*, and fixed ideas; they are readily worried and worked up about nothing. Physically, they show certain vices of conformation, either in the genitals, or in the head, the ears, the eyes, the palatine vault. Lastly, they are all subject to various nervous disorders: neuralgias, migraine, palpitations, anæmia, dyspepsia, exophthalmic goitre, cramps, convulsions, etc.

Such is the soil in which is planted the emotional neurosis under the influence of a favorable occasional cause. The rule, nevertheless, is not absolute, and it would be an exaggeration to say that all these patients, and all the neurasthenics are degenerates. In certain cases there exists at least no apparent trace of degenerative heredity, and the neurasthenia seems in them to be a true accidental disease. For this reason, we believe that there exist two very distinct types of psychic neurasthenia: the chronic, constitutional neurasthenia, or that of degeneracy, which is most frequent, and the acute, functional, and non-degenerative neurasthenia; both susceptible of being accompanied with obsessions, but with these of very different degrees of gravity in the two cases.

However these psychic neurasthenias are considered and named (insanity with consciousness, emotional insanity, fixed ideas, *Zwangsvorstellungen*, *paranoia rudimentaire*, anxious obsessions, morbid fears, episodic syndromes, etc.), the authorities are none the less in accord, in a clinical point of view, as to the general characters that they present.

These general characters have been fully indicated by M. J. Falret in his report on Obsessions to the International Congress of Mental Medicine of 1889.

The following are the conclusions of that report, as voted on and adopted by the Congress:

"The different varieties of the intellectual, emotional, and instinctive obsessions have common characters, which may be stated as follows:

(1). They are all accompanied with consciousness of the condition of the disease.

(2). They are usually hereditary.

(3). They are essentially remittent, periodical, and intermittent.

(4). They do not remain isolated mentally in the form of monomania, but propagate themselves throughout a very extensive range of the intellectual and emotional nature, and are always accompanied by distress and anxiety, internal conflict, hesitancy in thought and action, and also with physical symptoms of an emotional kind, more or less pronounced.

(5). They never are accompanied with hallucinations.

(6). They preserve the same psychic character throughout the whole life of the affected individuals, in spite of the frequent and often prolonged alternations of paroxysm and remission, and they do not change into other forms of mental disease.

(7). They never terminate in dementia.

(8). In some rare instances they may be complicated with delusions of persecution, or with those of anxious melancholia at an advanced stage of the disease, while preserving fully their primitive characters."

Heredity, as a rule, complete consciousness, concomitant anxiety, absence of hallucinations, remittent or paroxystic character, indefinite duration, such therefore, together with a dwelling on their condition which often goes so far as to lead them to

desire death, are the pathognomonic characters of obsessions in a mental point of view.

There should be added here, also, the physical neurasthenic symptoms, episodic and permanent, of which mention has already been made, and the principal ones of which are: headache, palmar and plantar hyperidrosis (cutaneous dropsy), flushes of heat in the face, feelings of profound exhaustion, palpitations, precordial anxiety, insomnia, various pains and neuralgias, sensations of twitching of the limbs, excess of oxalates and urates in the urine, heaviness in the kidneys and limbs, dilatation of the pupils and look of hesitation, localized muscular spasms, etc.

If there is general concord as to the principal symptoms of psychic neurasthenia, there is less argument as to their division.

Beard limited himself to enumerating certain of them under the generic name of morbid fears, according to their objective characters.

Morselli, who places them in his classification of mental diseases, under the designation of rudimentary paranoia, divides them into two species: (1) simple fixed ideas, or those with principle of action (paranoia rudimentaria ideativa), in which the obsession remains purely psychic without tendency to the impulsive act; and (2) impulsive ideas (paranoia rudimentaria impulsiva), in which the obsession is accompanied with an irresistible tendency.

Tamburini, who describes the same under the

name of fixed ideas, recognizes three species: simple fixed ideas, emotional ideas, and impulsive ideas, according as the obsession causes a forced attention, a distressed condition, or an action.

Luys, who bases his study on cerebral physiology, divides obsessions into psychic, psycho-emotive, and psycho-motor, according as they involve singly the centres of ideation, those of emotion, or the motor centres.

Falret, on clinical grounds, also divides them, as we have seen, into intellectual, emotional and instinctive.

Lastly, Magnan, who, *apropos* to genital obsessions, has formulated an anatomico-physiological conception of these syndromes, also divides these subjects of obsessions into cerebral, cerebro-spinal, and spinal cases, according as the obsession causes a purely psychic, superior cortical, or medullary reflex, that is to say, a fixed idea, a conscious irresistible impulse, a purely automatic act.

As will be readily seen, these divisions differ from each other very little in reality, and they all end in the fundamental distinction between purely psychic obsessions and obsessions with impulsion.

This way of viewing the subject, although generally adopted, meets only very imperfectly the clinical facts. It is impossible, indeed, to establish symptomatically so well defined a distinction between a fixed idea and an impulsion. The fixed idea, indeed, is only the commencement of the impulsion, if

it is not actually identical with it, a true intellectual impulsion, as it has been admitted to be by certain authors (Ball). As regards the impulsion itself, conscious and rational as it is in neurasthenia, it is a very complex syndrome, in which the unresistible act is only the last term of a morbid process, of which the fixed idea is the starting point and the anxious emotion the intermediate stage. Thus insanity of doubt, the type of fixed ideas, consists not only in involuntary mental questionings, but also in emotional crises, often accompanied by automatic acts. So also agoraphobia or fear of spaces, considered as an emotional obsession, is almost always accompanied by a fixed idea of motor impotence and a morbid act. So also onomatomania, coprolalia, rupophobia, homicidal impulse, ranked among the impulsive obsessions, include at once the fixed ideas of a word, of grossness, of contamination, of homicide, the anxious feeling of resistance, and finally the tendency to the act.

Further, the division of obsessions into intellectual, emotional and impulsive, has the defect of not taking into account a whole class of obsessions, and a very important one: those that are characterized not by the impossibility of getting rid of an idea or act, but, on the contrary, that of fixing an idea or accomplishing an act. It is true that obsessions of this kind pass under the name of aboulias, in some of the nomenclatures (Magnan, Saury, Legrain): but they figure there only accessorily, since they consti-

tute a special form opposed to impulsions of which they are, so to speak, the counterpart.

The best way to comprehend obsessions is to go back to their source and take pathogeny as a basis. But when we analyze the intimate mechanism of the phenomenon, it is seen that what is affected in it is the *will*, taken as a cerebral function. This truth has been recognized by all psychologists and clinicists, from Billod, who first called attention to it in describing some cases of this kind under the significant title of *lesions of the will*, down to Morel, Theo. Ribot, and Tamburini, who have made it very evident.

What then is the will and how does it normally act? From various excitations, of the sensibility, stimuli pass to the nervous centres, where they finally produce, after a series of more or less complicated operations, two kinds of reactions: the reaction of arrest or inhibition which suppresses certain others; and the reaction of reinforcement or impulsion, which transmits the others to the motor organs to be transformed into acts.

The will, according to this synthetic formula, is therefore a cerebral function composed of three elements: a centripetal element, the excitation, and a double reactional element, the function of arrest and the motor functions. The normal condition exists in the equilibrium between these three forces, and there is plainly a lesion of the will whenever this equilibrium is destroyed.

Many examples present themselves. In the one the lesion involves the excitant element, the reactional forces remain the same, and then either the excitation may be too strong and there follows an irresistible act (impulsion), or it may be too weak or be wanting, and activity is suspended (aboulia). In another case the excitation being normal, the lesion may affect the reactional element, and if the arrest is the function involved an irresistible act (impulsion) is produced, or if it is the motor function, then action is impossible (aboulia).

Lesions of the will are therefore of two kinds: (1) those due to disorder of the centripetal excitation (impulsion and aboulia, from excess or deficiency of excitation); (2) lesions due to disorder of central reaction (impulsion or aboulia from deficient force of arrest or motor force).

This classification of the diseases of the will, psychological and theoretical as it may seem, is none the less a clinical one, and suffices to explain the differences observed in the different forms of impulsion and aboulia. It will be seen by it how the lesions of the will from disorder of the centripetal excitant element are met with in the forms of insanity characterized by exaggeration or diminution of the sensibility (hallucinatory insanity, melancholia), while those due to disturbance of the central reactions, are met with in cases due to nervous exhaustion (neurasthenia). Further, we see how the impulsions of systematized insanity, induced by an

intense sensorial excitation, such as a hallucination, takes on its special character of spontaneity and suddenness, thus differing from the impulsion of neurasthenia due to lack of central inhibition with its more or less prolonged resistance and its accompanying distress. In the same way we see the difference between the inert, passive, and indolent aboulia of the melancholiac who is not called to act from lack of peripheral excitation (*non vouloir*), and the emotional, painful, and even agonizing aboulia of the neurasthenic who, called to action by normal incitations, exhausts himself in superfluous efforts, having lost his active power (*non pouvoir*).

We can therefore say that neurasthenic obsessions are lesions of the will from disorder of central reaction, and different from similar lesions met with in insanity, and that it is possible to divide them into impulsions and aboulias, according as the power of arrest or that of action is more specially involved.

Thus every neurasthenic obsession characterized by an idea, an emotion, or an irresistible act, from insufficient inhibition, is an impulsion: on the other hand, every neurasthenic obsession characterized by an idea, emotion, or impossible act, from insufficiency of motor action, is an aboulia, whatever may be the final result of the mental conflict that takes place.

It is possible now for us to draw up a very nearly accurate list of the principal varieties of psychic neurasthenia that are known at the present time.

1.—Impulsive Neurasthenias or Obsessions.

The impulsive neurasthenias or obsessions, are, as has been stated, those in which the inhibitory power of the will is disordered.

In order to comprehend their mechanism, it must be remembered that in the condition of normal cerebral automatism a crowd of ideas arise in the mind which are fixed or rejected at its will by the voluntary attention by means of its double power of action and arrest. This is the *polyidéisme physiologique* of Ribot. In the impulsive neurasthenic the conditions of cerebration are changed: the lessened will power tries vainly to chase away an idea induced by the automatism, and from this conflict between the voluntary energy and the preponderant spontaneity arises a crisis of anguish and anxiety which ends finally in an irresistible act or exhaustion.

Impulsive neurasthenia is therefore nothing else than a sort of pathological *monoidéisme* consisting in the invasion of the mind by an automatic idea under the influence of a diminution of the volition of arrest. Its fundamental characters are: (1) the fixed idea, which is the very essence of the impulsive obsession; (2) in the anxious or emotional crisis engendered by the efforts of resistance of the will; (3) in the final result, varying according to the case, and which may be as much inhibitory as dynamogenic, that is to say, it may end in a psychomotor paralysis as well as in an irresistible act.

It follows from this, as we have already seen, that all impulsive obsessions are primarily intellectual and that their starting point is always a fixed idea, the phenomena of feeling and action being only a continuance and result. It follows also that any idea capable of arising spontaneously within us, whether it refers to abstractions, words, figures, persons, or things, or any object whatever, may become fixed in the mind of a neurasthenic and consequently be the origin of an obsession.

This last statement is confirmed by the facts that show that the various species of obsessions extend and multiply the more the better they are known. In reality their number is unlimited, and we may say that there exist as many varieties of obsessions as there are thoughts occurring in the human mind.

Is it logical under these circumstances to give a name and special description to each of these varieties, the number of which extends and will extend without cessation with the progress of observation? Personally I do not so think, and it is already long since I began to notice this regrettable tendency of modern clinicists to individualize the infinitely little.

Every one agrees, in the main, in recognizing that neurasthenic obsessions are not only identical, in their essence and their characters, whatever form the fixed idea may take, but that they also rarely exist singly in the patients in whom we almost always find them combined with other similar obsessions. What utility is there then, of creating for

each of them not only a special designation, which should strictly be understood as merely for convenience in describing them, but also a separate symptomatology, which is perfectly useless and makes it appear that we wish to erect them, if not into diseases, at least into distinct varieties of a disease?

Nevertheless, this is what has been done heretofore, at the risk of uselessly complicating the study of these syndromes, already so difficult. Let us take, for example, the fear of objects or of contacts, which is one of the most frequent of the impulsive obsessions. It ought to be sufficient in describing this obsession to mention the principal elements or subjects of the morbid fear. Instead of this the tendency is to separate each fear of objects and we have already, of these: the fear of dirt or defilement, (rupophobia or misophobia); the fear of virus and poisons (iophobia); fear of points (aichmophobia); fear of needles (belonephobia); fear of glass or pieces of glass (crystallophobia); fear of objects of metal, door knobs, pieces of money (metallophobia); fear of hair and down of fruits (trichophobia). Moreover, the obsession that shows itself by fear of places and of the elements includes: fear of wide spaces (agoraphobia); fear of narrow spaces (claustrophobia); fear of high places (acrophobia); fear of precipices (cremnophobia); fear of thunder and lightning (astraphobia); fear of water and of rivers (potamophobia); fear of fire (pyrophobia), etc. etc.

It is evident that under these conditions, there is no limit to the morbid subdivisions.

For my own part, considering that all impulsive obsessions of whatever nature, have exactly the same characters, and that the description of each of them singly can only produce confusion, I am forced to bring together the similar forms and group them in a few principal categories. I have thus admitted for convenience of study: (1) obsessions characterized by *indecisions*, of which doubting insanity is the type; (2) obsessions characterized by fears, namely: fear of objects (ex: rupophobia); fear of places or of the elements (ex: agoraphobia); fear of living beings (ex: zoophobia); (3) obsessions characterized by propensities or irresistible tendencies (ex: onomatomania, kleptomania, dipsomania, homicidal or suicidal impulse.)

It will be sufficient to describe here the principal types of each class, to give as complete as possible an idea of all the varieties, at present known, of impulsive obsessions. Still I will only lay stress on the mental symptoms they may present, the general phenomena, that is to say, the stigmata of degeneracy and the bodily symptoms of neurasthenic attacks are almost always found in the majority of the cases.

Obsessions of Indecision: *Maladie du doute.*— The insanity of doubt is the type of the obsessions characterized by indecision. Described in 1866 by

Jules Falret and after him by Legrand du Saulle, Ritti, and various foreign writers, it is generally known in Germany under the name of *Grübelsucht*, and in France under the incorrect name of "*folie du doute avec délire du toucher.*" It consists in fixed ideas that besiege the patient under the form of interrogations, hesitations, and indecisions of all sorts, and of which he anxiously seeks the solution.

M. Ball has divided the doubters into five classes, according to the nature of the predominating ideas: the metaphysicians, the realists, the scrupulous, the timorous, and the counters. These divisions, properly understood, will serve to facilitate the description of the condition.

The *metaphysicians* are those who are especially haunted by abstract questions. Their psychological rumination, as Legrand du Saulle calls it, is in reference to Deity, the Virgin Mary, heaven, hell, the soul, the future life, the world, and all the most obscure problems of nature. They are constantly inquiring as to the why and wherefore of persons and things, without being able to drive from their minds the interrogations thus irresistibly imposed upon them and which plunge them into inexpressible tortures. M. J. Falret has very ingeniously and accurately called this condition "the torment of the question."

The *realists* are those whose ideas, with the same character of irresistibility and tenacity, take on a more or less trivial nature. They revolve in their

thoughts, for example, over the conformation of the genital organs, copulation, the difference of the sexes, the color of the eyes, the presence of the beard, the lowest and coarsest details of objects.

The *scrupulous* are those whose doubts are in regard to matters of religion. In their spells of anxiety these patients torment themselves to the utmost with the ideas that, for example, they have laughed at mass, have omitted some sin in confessing, have offended God in some thought or act. I have known a neurasthenic degenerate, who, possessed with an apprehension of this kind, would only leave the church walking backward, so as not to turn his back to the altar, and who before making use of the cabinets read over and over the pieces of paper he used without being able to assure himself that he did not involuntarily profane any sacred word.

The *timorous* are those who are fearful of committing some indelicate action, and more particularly a theft. The type of these cases is the young woman cited by Esquirol who was always afraid of carrying off some object of value, and, under the influence of this obsession, passed all her time in brushing herself, taking off her shoes, examining her hair, her hands, the floors and seats she occupied, for fear lest something of value should stick to her person or clothing.

The *counters*, lastly, are those whose doubts are manifested under the form of irresistible enumera-

tions. This one is compelled to count gas burners, or the trees along his route, and if he believes he has made any mistake, he turns back once, twice, or ten times over his steps to make the same calculations over again. Another (observation of Trélat) passes his time in counting how many times the same letters are repeated in the Scriptures: how many pages in this edition begin or finish with a P, or a B., etc. Another, finally, who came to consult Legrand du Saulle, cried out in departing: "You have forty-four books on your table, and you wear a waistcoat with seven buttons. Excuse me, it is involuntary, but I have to count."

Not all the forms of morbid doubt are included in this enumeration since they are infinitely variable. The superstitious and the fatalists who anxiously order their lives according to this or that insignificant event might, for example, be added to the list. Persons, things, names, words, figures have for them a fortunate or unfortunate signification according to their nature or their appearance, and they thus pass suddenly from terror to joy, and the reverse, according to the presage encountered. Others are impelled to perform some ridiculous act, or to repeat many times the same performance to exorcise the spell, and neglecting which they suffer increasing distress until they finally yield to their obsession. Some recommence indefinitely the same work without being able to satisfy themselves that it is well done. To dress themselves becomes to them one of

the most difficult of operations, and they pass whole hours in putting on their footwear, buttoning up their clothing and dressing their hair, always the prey of an uncertainty as torturing as it is futile. Many of them cannot put a letter in the post-office without hesitating a dozen times and, in spite of all this, after it is deposited, asking if they haven't forgotten the address or dropped it outside the box; they are afraid they have left a door unclosed, a light burning, a faucet running, and whatever they do and however much they resist their fixed idea, they are distressed until they become assured once or many times in succession that their apprehensions are useless.

The obsession of doubt, like most of the analogous conditions, progresses by crises, by spasms, more or less acute and nearly connected. Like them it is tenacious, chronic, and, in general, incurable. The patients demand an outside affirmation to calm their ever reviving indecision; but shortly this moral support becomes insufficient and they fall into a sort of mechanical automatism; passing their lives in incessantly repeating humiliating or ridiculous actions, muttering over the same phrases or interjections, sometimes even swearing at their condition of which they unhappily retain full consciousness.

Stress has been laid in this description only on the mental phenomena of obsession. But it is understood, once for all, as has been said, that the indica-

tions of degeneracy are to be met with in most cases, and that almost always the emotional attacks are also habitually accompanied by bodily symptoms (palpitations, praecordial pain, alternating flushes and pallor, local sweats, especially of the face and hands, chills, tremor, swoons, etc., etc.)

Obsessions of Fear (Phobias): (1) *Fear of objects.*—This obsession, mentioned by Morel in 1866, in his *Délire émotif*, was described the same year by J. Falret under the name of "partial alienation with predominance of fear of contact of external objects." In this description, which remains classic, and to which very little has since been added, Falret included at once both the malady of doubt and that of contact. The writers succeeding him did the same, and Legrand du Saulle evidently considered the fear of contact as not only one of the manifestations but as one of the periods of the former, naming it therefore "insanity of doubt with delusions as to contact." The majority of alienists at the present time make the doubt and the fear of contact two distinct obsessions. It is certainly true that these two syndromes are not inseparably allied, and that one is not a phase of evolution of the other; but it is not less true that the fear of contact, like, moreover, the majority of impulsive obsessions, is at bottom only a sort of morbid doubt.

The fear of objects* has for its basis a fixed idea, and consequently an anxious dread. Its expression is extremely varied and may involve all kinds of objects. I have criticised carefully all the observations of fear of contacts so far published, and find that it is manifested most frequently by fear of hydrophobic virus or that of cancer, or glanders, of contact with phosphorus, or with poisons; the fear of defilement (rupophobia or misophobia); by the fear of pins, of pointed objects, of bone (aichmophobia, belonephobia); by the fear of bits of glass, of jet (crystallophobia); by the fear of metallic objects, of door knobs, and of pieces of money (metallophobia); by the fear of hairs and especially the down of fruits (trichophobia); and lastly, the rarer fears of grease, of quicklime, of mastic, etc., etc.

The other forms of fear of objects, less frequent, and especially less studied, have for their motive: the sight of blood (*hematophobia* of Féré), of knives, of swords, of matches, of the sounds of bells, thunder, and firearms, of the odor of flowers and perfumes, the taste of certain articles of food or drink.

Whatever form the morbid fear may take, and it

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*The fear of contacts, which has alone been in view in the descriptions, is itself only a form of a more general fear: the fear of objects, the starting point of which is not only contact, but also the sight, sound, odor and even the taste of certain objects. It is necessary, therefore, in my opinion, to unite the study of these different forms and to designate them collectively under the generic name of fear of objects.

is often multiple, it manifests itself by agonizing spells accompanied by usual neurasthenic symptoms. What proves that this fear is really of psychic origin is that it arises from only a thought or a memory of the object.

The feeling that results from this almost invariably impels the patients to wash their hands to such an extent that reiterated and continual washing of the hands may be taken as one of the most constant signs of this variety of obsession. It is a curious fact also that it is not from any horror of slovenliness or because they see dirt on their hands that the misophobes are given to these ablutions, since they endure such things very well and may go many days or even weeks without changing or bathing; on the other hand, as soon as they touch the water the obsession appears, distressing and irresistible, and the more they wash the more they are impelled to continue it by an impulsive and, so to speak, automatic need.

It will hardly be believed how far the tyranny of a fixed idea will extend if one has not closely observed these unfortunates. For nearly a year I have observed one such daily and almost every hour of the day, and I avow that I know nothing more extraordinary or more saddening than this mixture of perfect rationality and extravagance, of consciousness and impulse. I will mention but one detail out of a thousand. When my patient goes to the cabinet to urinate, he remains there for hours, at least if

we do not come to take him away, since this simple act becomes for him, like all others, one of frightful difficulty. In order to avoid having to renew the act often he tries to empty his bladder completely, and as the last drops are drained, he makes violent efforts at expulsion and shakes the organ to complete it, with the result only to throw him more into anxiety, fatigue and perspiration. Next, when he adjusts his clothing, is the most prolonged and difficult part of the operation, since, haunted with the idea that he may imprison something unclean in his shirt, especially a fly or a spider, he folds and unfolds it many times, till flushed, panting, and possessed, he finally succeeds in securing the organ hermetically against his body in many skilful wraps, always the same. If any one comes, at any time whatever, the obsession ceases and the patient urinates and adjusts himself most naturally and rapidly, for we are aware that the subjects of these besetments obtain in the presence of strangers, or at least in that of certain individuals, a moral support, that is, the backing of a will that they lack when they are alone.

Like the malady of doubt of which it is, as we have seen, only one of the modalities in most cases, and with which even it is often confounded, the fear of objects is extremely persistent; and in spite of the longer or shorter lulls that may occur, it tends to become chronic and to gradually overcome the individual, who is reduced to the state of an automaton, leaving always perfect mental lucidity and consciousness.

(2). *Fear of places, elements, and diseases.*—The type of this form of fear is *agoraphobia*, long known from the memoirs of Cordes, Westphal, Legrand du Saulle, Ritti, etc. It consists in an obsession which has for its object the fear of wide spaces. In a desert place, a very wide street, on a bridge, in a church or a theatre, the patient is suddenly taken with the idea that he cannot get over the space before him, that he will die or suffer ill. A distressing attack follows accompanied by palpitations, præcordial anguish, feelings of oppression, shivering, flushes and pallor; the strength gives way, the legs bend, cold sweat occurs, and the subject falls from weakness. But if he has any one's arm, if he walks alongside a wall, if he walks in the shelter of a carriage, if he carries a sword or cane, this aid, small as it may be, suffices to vanquish or relieve the obsession and he overcomes the obstacle with the greatest facility.

Cremnophobia, or fear of precipices, and *acrophobia*, or fear of summits, described recently by Verga, who gives himself as one of its victims, are obsessions alogether analogous to agoraphobia, with this difference that the patients feel their distress, not in large spaces, but when they are before a gulf, or on a height. An American alienist, who confesses himself an acrophobe like Verga, noticed among his sensations at the moment of the attack, a quick and painful contraction of the scrotum.

Potamophobia is an agonizing fear of the same

nature that has for its object rivers, lakes, etc. It is especially felt on large sheets of water.

Claustrophobia, pointed out by Meschede, and best known from the memoir of M. Ball (1879), the opposite obsession to agoraphobia, i. e., the fear of confined spaces. The patients cannot remain in narrow quarters and at the mere idea that they are or may be in a close place they fall into a paroxysm of distress that causes them to rush out, no matter what obstacles they may encounter. They feel on these occasions, says M. Ball, a sensation of constrictive anxiety, analogous to that one would experience in creeping along a long and narrow branch.

Astraphobia, described and named by Beard, is a similar dread, which has for its object thunder storms and lightning. It presents in itself nothing worth being described. Its principal symptoms, apart from the obsession, are, according to Beard, pain in the head, nausea, vomiting, and, in some cases, convulsions.

We can compare these fears which have intangible things for their objects with the fear of diseases, known as *nosophobia, or pathophobia*. The patients who suffer from this are not to be confounded with ordinary hypochondriacs and certainly not with insane hypochondriacs; since in them the hypochondria presents itself with clearly cut neurasthenic characters, that is to say, under the form of conscious, distressing, and paroxysmal obsessions. The patient, while alone by himself or on the street, is

all at once seized with a fixed idea as violent as it is sudden: he believes that his heart is about to be arrested, that his brain is empty, that his limbs are paralyzed, that he will fall and is going to die. Panting, anxious and perspiring, he either drops on the spot, or runs to a physician begging him to save him, or more often, he hastens to swallow some drug or cordial that he always carries with him in view of this event. The attack once over, he is again calm, matters are as before, and he can attend to his business till the return, within a longer or shorter time, of the next similar paroxysm. This, it will be seen, is a special condition, clearly different in its characters from vesanic hypochondria which is essentially continuous and uniform in its manifestations. The nosophobic obsession may exist relative to any disorder or organ. Sometimes it may even be fixed on a simple morbid peculiarity, like some peculiarity of the nose or tongue (Pitres): limited, tenacious hypochondriacal ideas are, nevertheless, more characteristic of non-neurasthenic degenerate cases.

(3). *Fear of Living Beings.*—The type of this form of morbid obsession is *anthropophobia*, named and described by Beard, who considered it one of the more frequent forms. It consists in an aversion to society, a fear of seeing a crowd or of mixing with one, or of seeing people about one. In very many cases, says the American author, this obsession becomes so pronounced that it impels the sufferers

to abandon their occupations and their business because they cannot look their fellow men in the face or negotiate with them; they are afraid of the human species. Beard considered as an important and constant symptom of these neurasthenics the fact that it is impossible for them to look any one steadily in the face, and affirms that they can be recognized at first sight merely by the manner in which they keep their eyes looking downward and away. In some cases the dread is limited to only one sex, especially the female (gynephobia) or to certain classes of persons, such, for example, as drunken men.

In other subjects the obsession takes the opposite form: this is *monophobia*, or fear of solitude. The monophobes cannot travel or walk out alone, or leave their homes without being accompanied. Beard cites the case of a patient of Dr. C. L. Mitchell who, under the influence of a fixed idea of this kind, was brought to paying a man twenty thousand dollars to be his constant companion.

The abnormal emotivity towards living beings may finally be directed toward the lower animals. The aversion to certain animals, dogs, cats, frogs, serpents, mice, spiders, etc., and the exaggerated liking for others are, it is well known, very common in many persons, especially women, and in non-neurasthenic cases; and it may here be remarked that all morbid obsessions are nothing more than the reproduction, carried to a pathological extent, of ideas, sentiments or tenden-

cies that are all met with, in a more or less rudimentary condition, in normal individuals. In the neurasthenics the obsession reveals itself here either by a dread of certain animals (zoophobia), or by the impossibility of seeing them suffer in any way (zoophilia, antivivisectionists of Magnan); in these two cases it gives rise to anxious attacks analogous to those already described. The contact, the sight, or even the recollection of certain animals is sufficient to provoke these attacks.

Obsession-Propensions.—Obsession-propensions or obsessions, properly so called, are those in which the fixed idea has for its effect not a fear, but an irresistible tendency. Of this class, are: onomatomania, kleptomania, pyromania, dipsomania, and homicidal and suicidal impulses.

Onomatomania.—This is the obsession of a name or word, described in 1885 by Charcot and Magnan.

It follows from their observations that this obsession may manifest itself: (1) by the distressing seeking for a word or name; (2) by the attribution of a harmful or preservative influence to certain names or words; (3) by the impulse to repeat some name or word that obtrudes itself; (4) by the obligation to eject, as it were after efforts of expectoration, a name or word that has become a veritable foreign body to be thrown off.

These two last forms only are irresistible tendencies; the others appertain more to psychic indecision

or malady of doubt, in reference to which I have already mentioned them.

Arithmomania, described by the same authors, is only onomatomania with special reference to numbers and figures. It is well known that the number 13 plays a capital *rôle* in this obsession.

Blasphematory mania, noticed long since by Verga is also a form of onomatomania in which the verbal impulsion shows itself in oaths and blasphemies.

The irresistible tendency to repeat coarse or obscene words is likewise the characteristic of a more complex, but certainly a similar condition recently brought into notice by Charcot and his pupils, under the title of *maladie des tics convulsifs*, or Gilles de la Tourette's disease. A detailed account of this has been given by Dr. Catrou in a recent thesis (Paris, 1890).

This disease comprises two kinds of symptoms: (1) *tics*, sudden and violent movements of certain parts of the body, especially the arms, having the characters of symmetry and coördination and of reproducing, as if from electric shocks, certain naturally associated movements, always identical in the same individuals, (sudden blowing of the nose, quick and repeated closing of the eyelids, sudden and automatic scratching, sniffling, expectoration, blows on the chest as if in an act of contrition, etc., etc.); (2) *coprolalia*, a term invented by Gilles de la Tourette to designate the, as it were, explosive, and forced ejaculation of oaths and vile language ac-

companying each attack of the *tics*. There is sometimes added an irresistible tendency to imitate words and gestures (echolalia, eckokinesis, echomatism). The chief and pathognomonic symptom, according to Catrou, is the coprolalia.

The malady of tics is chronic, remittent, paroxysmal, and usually incurable. It is frequently connected with some of the already described obsessions.

We have here undoubtedly a degenerative condition of the neurasthenic type, as the *tics* are nothing but the stigmata of an hereditary neuropathy, analogous to the others. As M. Charcot well says (Tuesday lectures): "The tic is a disorder that is only in appearance material; it is, on the one side, a psychic disease, for there are mental as well as bodily *tics*."

Kleptomania.—This is the conscious and irresistible impulse to theft. Tendency to steal may be encountered, as a symptom, in some mental affections, notably in general paralysis, imbecility, dementia; but here it exhibits the special characters of a neurasthenic impulsion. That is, it presents itself under the form of an obsession, accompanied with resistance and distress, and which causes the ordinary phenomena of paroxysmal attacks. The articles stolen are often insignificant; occasionally only one object, always the same, is stolen, and the patient accumulates most incredible collections of these.

Pyromania.—Pyromania is an impulsion to set things on fire. Like all the other morbid impulses, it is not special to neurasthenics, and it is also met with notably in epileptics, imbeciles, and dements. With them it is a thoughtless, unconscious, morbid act, without conflict and concomitant anxiety, and consequently shows none of the pathognomonic characters of an obsession. It is most common in the female sex, and the attacks occur especially in connection with the various periods of sexual life, particularly at puberty and during the menstrual period.

Dipsomania.—Dipsomania is the irresistible tendency to drink. This tendency is frequent in the commencement of psychoses accompanied by excitement, especially in mania and general paralysis, where it is one of the manifestations of the morbid craving for activity that leads the patient into all sorts of excesses. In subjects of degeneracy, and especially in the neurasthenics, it constitutes a true dipsomania.

Magnan, who has given an excellent description, lays stress on the intermittent and paroxysmal character of the attacks. At the beginning the patient suffers from bodily discomfort, anorexia and gastro-intestinal disorders, simultaneously with sadness and depression. Then the desire for drink is awakened, an irresistible craving that must be satisfied at any price. Now nothing can check the patients, in spite of their lucidity and efforts at resistance, they are

forced to yield to the impulse. Many of them fly from their homes at this period, to plunge outside, into the most deplorable excesses and debauchery, going even so far as to sell their clothing or prostitute themselves to procure the money for drink, and when they return after some days they fall into a state of sadness, remorse, and shame, which marks the end of the attack.

Very different from the alcoholic case, who intoxicates himself more or less regularly with the liquor of his choice, the dipsomaniac is habitually very sober in his intervals of calm. During his attack, on the other hand, all drinks are alike to him, provided they are strong, and he takes as readily to drugs and poisons as to alcohol. We may, therefore, consider some cases of the passion for ether, morphine, cocaine, etc., etc., as clinical varieties of dipsomania.

Together with the impulsions above described the following analogous ones, though less frequent, should be mentioned: *Oniomania*, or irresistible impulse to buy; the impulsion for gambling (cubomania); the impulsion to travel (dromomania). Many of the cases described of late years under the generic name of *ambulatory automatism* appear to belong to this last variety.

Impulsion to Suicide and Homicide.—We have here only to speak of the attacks of conscious, irresistible and distressing impulsion, since impulses to suicide or homicide are, more than any other kind, met with in most forms of insanity.

Impulse to suicide is, we are aware, especially hereditary; and it is particularly so in the cases we have here in view, i. e., the neurasthenic degenerates, in whom we see it transmitted in the same form from ancestors to descendants (homologous heredity) and sometimes manifesting itself in both at the same period of life (homochromous heredity).

The impulsion to homicide proceeds in an identical manner by intermittent and paroxysmal crises preceded by melancholic prodromata. The patients are beset with the fixed idea of killing this or that person, for example a child they adore; the sight of that child, of a weapon, a knife, arouses their obsession and plunges them into inexpressible torment; they realize that their will is bending that they are yielding to the impulse, and filled with horror, they lament, flee from home, ask aid and protection of physicians, not hesitating in some cases to have themselves locked up in order to escape from their morbid penchant.

Erotomania.—Under the generic name of erotomania are included the obsessions of a sexual nature described abroad by Krafft-Ebing and by Magnan in France. In some subjects the fixed idea, consisting in coarse or lascivious reminiscences, has for its effect either the excitation or the suppression of the sexual power; in others it causes true impulsive acts such as: indecent exposures before women and children, sometimes at a certain hour in any place whatever, even in churches; rubbing of the penis, either

hidden or openly, against the pelvis of women in crowds; thefts of feminine articles as amorous relics, such as plaits of hair, handkerchiefs, shoes, jupons, etc., etc. In some instances the impulse, more grave in its nature, may give rise to acts of sodomy, bestiality, or even bloody deeds and violation of corpses.

Reversed sexual instinct (conträre sexual Empfindung), characterized by an affinity, especially psychic in its nature, of certain individuals for the persons, the costume, the occupations, and the habits of the other sex, is comparable in many respects to the preceding obsessions, and, like them, is observed especially among the degenerates.

2.—Aboulic Neurasthenias or Obsessions.

The aboulic neurasthenias or obsessions are, as we have seen, those in which the will is affected in its power of action.

Contrary to that which occurs in the impulsive obsessions, where the subject anxiously endeavors to get rid of an idea which is imposed upon him, here he tries vainly to transform an idea into an act; his will is unable to set into action his motor system, and his efforts in this direction end only in increasing his trouble and distress.

Aside from this difference, the aboulic obsession is, in reality, of the same nature as the impulsive one; it is connected like it to neurasthenic degeneracy, and reveals itself by conscious, besetting, paroxysmal

attacks, accompanied by the same physical and psychic symptoms.

The impulsive obsession, it has been seen, may have any idea whatever for its point of departure; so also the aboulic impulsion may betray itself by the distressing impossibility of any act whatever. As many varieties therefore can be made of aboulic as of impulsive obsessions. Fortunately, investigations have not yet been pushed in this direction, and there does not exist to my knowledge, any detailed description of this kind of psychic neurasthenias.

One of the most frequent forms consists in the inability of the patient to rise from a sitting posture when he is seated. The desire of the act exists and he makes efforts to accomplish it, but his power of impulsion is insufficient and his most strenuous attempts only end in the characteristic emotional crisis of neurasthenia. In other cases, the patients can walk, rise, and sit down, but cannot mount without experiencing the same inhibitory obsession as that of the priest reported by Dr. Lichtwitz and referred to by Krafft-Ebing, who could not go up the altar step, in saying mass, especially if the church was full of people. If supported, however, even to a very slight extent, by a choir boy, he overcame his obsession. I have given to the first of these conditions the name of ananastasia, from *ἀ* privitive, and *ἀνάστᾶσις* the action of rising, and to the second that of ananabasia (*ἀ-ἀνάβᾶσις*, the act of mounting). It will be noticed that these

terms, ananastasia and ananabasia are almost identical with *atasia-abasia*, a term chosen by M. Charcot to designate a special neuropathic modality, of which M. Blocq gave an excellent description in 1888, and which is characterized by the inability of certain hysterical subjects to stand erect or walk.

I ought to state that this is a pure coincidence, since it was in 1886, and on the indication of students of aggregation in philosophy present at my course, that I first employed these neologisms, on which, moreover, I lay no stress, since their utility, as I have many times remarked, seems very questionable. It is well to state, however, that the conditions of motor inhibition to which they refer, differ sensibly from those described by M. Charcot. Ananastasia and ananabasia signify, in fact, inability to rise and inability to climb, while astasia-abasia signifies inability to stand erect or walk (*ἀ-στάσις*, the act of standing; *ἀ-βάσις*, the act of walking). But there is still another distinction which is of great importance. The impossibility of standing erect and of walking in astasia-abasia is a continuous and constant symptom, undoubtedly due to a functional impotence, a dissociation of the constituent elements of progression under the influence of the neurosis; in ananastasia and ananabasia, on the other hand, the inability to rise or walk only exists in the attacks when the obsession is produced; in the interval the patient can make whatever movements he pleases. There is evidently, aside from the other peculiarities

that may be invoked, a capital difference, which shows that ananastasia and ananabasia do not belong to the same category of morbid facts as astasia-abasia. The former are phenomena of aboulic obsession, the latter appear to be symptoms of dissociated functional paralysis.

However it may be, it seemed to me to be worth while to compare them, if only to establish the distinction between pathological conditions that might otherwise lead to confusion.

Besides the impossibility of rising and climbing, I have also noticed, as an aboulic obsession, the inability to dress one's self (anesthia, from *ἀ-ἐσθήϛ*, habit). This inability, like all the other inhibitions of the same kind is intermittent and only occurs in attacks; further, it is not complete and is generally limited to one or several articles of dress, for instance, the stockings, the shoes, the waistcoat, the corsage, the hat. In the intervals between the attacks the patients dress themselves with ease; when the obsession supervenes they are unable to accomplish it, and are compelled to stay in till the return of the normal calm or to go out only partially dressed.

Another rather common disability consists in the inability of the patients to speak, write, and, particularly, to sign their names (anupographia). An instance of this kind is to be found in the work of Billod on the diseases of the will, and another very remarkable one in that of Morel on the *délire émotif*. This last is the case of an individual who

was unable to write to his betrothed, to sign his name, or to pronounce in church the sacramental "yes," so that the chaplain had to be satisfied with his assent by signs.

There are many other emotional impossibilities, such, for example, as the impossibility of fixing the thought, already described under the name of *aprosexia*, the impossibility of sitting at table, of opening doors, of entering or leaving, and many other forms still, which future observations cannot fail to bring to light. I limit myself here to the mention of the principal ones, desiring chiefly to show that neurasthenic aboulia is a special obsession, differing from neurasthenic impulsion in that it has for its starting point a lesion of the will to act, while the other has for the same a lesion of the will to arrest action.

Diagnosis.—I need not dwell at length on the diagnosis of obsessions, which constitute syndromes of degeneracy with absolutely pathognomonic characters. I limit myself to calling attention to the possibility of confounding aboulic obsessions with certain forms of depressive melancholia. The distinction is not always easy, since both conditions are characterized in various degrees by motor inactivity as well as by discouragement and sadness.

The analogy, nevertheless, is only in appearance, as melancholia is a special disorder, in which the symptoms of inactivity are continuous, persistent and regular like all the others, while

neurasthenic lack of force is only a simple intermittent and paroxysmal syndrome. Furthermore the incapacity of the melancholiac does not weigh upon him, he does not suffer on its account and fight in vain against it; the neurasthenic, on the other hand, wishes and endeavors to act, whence his characteristic distress. We have explained this difference already, by showing that the aboulia of the melancholiac is by defect of excitation, while that of the neurasthenic is from default of central impulsion with retention of centripetal excitation.

It should be recognized, moreover, that the aboulia of the melancholiac is very often only an accessory phenomenon of the disorder, and that it coexists with other significant symptoms, such as painful delusions, hallucinations, refusal of food, and suicidal tendency, which leave no room for doubt, since, with the exception of the last named, they are never encountered in neurasthenic obsession.

Prognosis.—The prognosis of neurasthenic obsessions is generally, as we know, very grave, and the majority of authors have insisted on the tenacity, chronicity, and incurability of these syndromes, which are very liable to remissions but not to recovery.

It is certain, indeed, that whenever the obsession coincides with an actual and serious degeneracy, it has a natural tendency to persist indefinitely. On the other hand, when there is no degeneracy or when it is present to only a slight extent, the obsession is

perfectly capable of recovering. We may formulate in this regard the rule that the curability of the obsession is in inverse proportion to the degree of degeneracy and in direct proportion to the degree of acuteness of the neurasthenia. It is especially, therefore, in the acute accidental neurasthenias, due to severe moral or physical causes, that we observe the curable obsessions. I should state also that the aboulic obsessions seem to me to be less grave than the impulsive ones, and that I have met them more frequently in acute neurasthenias where the degenerative characters were little marked.

Treatment.—The treatment of obsessions is blended with that of neurasthenia. How complex and varied that is, is well known. Nevertheless, not all the therapeutic methods proposed for neurasthenia are available against obsessions, and that of Weir Mitchchell, in particular, can only be of use in cases of acute neurasthenia with aboulia, which is unquestionably among the rarer forms. Isolation and confinement are hardly any more efficacious, and the rather numerous obsessed patients who have themselves admitted in asylums in hope of a cure derive from them, as a rule, no decided benefit. The means that seem to me most useful, apart from the pharmaceutical preparations appropriate to the case (iron, phosphates, quinine, kola, strychnia, bromides, hypnotics, etc.), are external agents, hydrotherapy and baths of all sorts, massage, and especially electricity, either cerebral galvanization in large dose,

as recommended by Beard, or franklinization as preferred by Vigouroux. It is seldom that we do not obtain by the methodic and enlightened employment of this latter agent, if not a cure, at least a temporary, and sometimes a lasting, alleviation.

Finally, chiefly when all other means have failed, we may have recourse to hypnotism, which will possibly give good results in case its application is not difficult. I am well aware that many cases have been reported during the past few years, of morbid obsession cured by hypnotic suggestion, but I am firm in the belief that all the patients are far from being readily hypnotizable in spite of their good will, and that many of them cannot be put to sleep, whatever care and persistence is used to effect it. Perhaps it will be proper yet in this point of view to separate the cases of obsession into two classes: those of accidental and acute neurasthenia, hypnotizable and curable; and those of constitutional and degenerative neurasthenia, non-hypnotizable and condemned to absolute incurability.

§ III. PHRENASTHENIAS.

(Hereditary Insanity or Insanity of the Degenerates).

Under the name of *phrenasthenias* we designate the vices of organization or degeneracies which are accompanied by insanity. This is what is called by some authors hereditary insanity or that of degenerated individuals.

Described by Morel, studied successively by J. Falret, Legrand du Saulle, Sander, Krafft-Ebing, Buccola, Morselli, Tonnini, Riva and numerous foreign *savants*, this morbid condition has been especially elucidated during the past few years by Magnan and his pupils.

Hereditary insanity is far from being universally admitted as a special form of insanity, and the international congress of mental medicine of 1889 rejected this appellation to substitute that less discussed, but quite as debatable, one of moral insanity. It is impossible, indeed, to give the name of hereditary insanity to any one form, whatever it may be, since all kinds of insanity may be hereditary. It is not less the fact, however, that the degenerates, i. e., individuals suffering from vices of organization, do not become insane like other people and that their insanity presents special characters of its own. It is therefore the word rather than the thing that is under discussion, and the term insanity of the degenerates, or better, phrenasthenia, seems to be one suited to conciliate all views.

The principal character of the insanity in the degenerates is that it depends upon a still graver constitutional condition, the mental infirmity. In ordinary lunatics the insanity is everything; here it is only a secondary phenomenon, superadded and often episodic. There are therefore two distinct elements to be considered in phrenasthenia: the vice of organization and the insanity.

The vice of organization or background we are acquainted with. It is the total of the bodily and mental stigmata on which we have insisted so many times already, and it suffices to say that these stigmata, essentially characterized by congenital deviations and malformations, are here more pronounced than they are in the disharmonies and neurasthenic cases, the phrenasthenics representing a more advanced degree in the teratological scale. It is in these patients especially that we find the bodily anomalies of the cranium, face, ear, palate, and the genital organs, and, mentally, more or less profound moral and intellectual lacunæ, coexisting with aptitudes and faculties normal or in excess.

The insanity or psychopathic epiphenomenon has very complex characters and presents itself under the most varied and complex aspects. Therefore it is worthy of extended consideration.

Sometimes the insanity of the degenerates consists in a true intellectual delirium; sometimes it reveals itself in moral and affective aberrations, without delusions, properly speaking; sometimes, finally, it shows itself by tendencies purely instinctive. There are therefore three different varieties to be examined successively: the delusional, reasoning, and instinctive phrenasthenias.

Delusional Phrenasthenias.

(*Délire des Dégénérés.*)

The delusional phrenasthenias represent, to speak correctly, the true insanity of the degenerates.

Degenerate individuals may be subjects of any form whatever of the common vesanias: mania, melancholia, or systematized insanity. But each of these has its special characters, either in the symptomatology or, more particularly, in its evolution. The attack of generalized insanity begins all at once; the delirium is more restricted and the lucidity greater; remissions and intermissions are almost the rule; recovery takes place suddenly, but relapses are always threatened. Furthermore, mania and melancholia may be intermingled, succeed and alternate, so that some authorities have been led to consider the periodical and circular insanities as belonging properly to the insanity of degeneracy. As regards systematized insanity, it shows itself under a still more abnormal aspect. Here it is no longer the typical psychosis, evolving regularly and methodically by successive and distinct periods. Here the different phases are entangled and confused: sometimes the ideas of grandeur and persecution appear simultaneously; sometimes the ambitious delusions precede the persecutory ones; sometimes, finally, it is an attack of mania or melancholia that becomes the starting point of the systematized delusions, in which mystical or sexual conceptions (*persécutés génitaux*) often predominate. On the other hand, the disorder may improve or even stop at any moment whatever of its existence which never, so to speak, occurs in typical systematized insanity. In a word, as Saury says, "the course of

hereditary insanity allows no regularity; the lack of method replaces the plan; absence of preparation takes the place of progressive march. The most diverse manifestations may appear, combine, or alternate without any formal evolution. Far from indicating sytematization and chronicity the ambitious delusions lack all character and may disappear to-day or to-morrow."

This is the form of systematized insanity, first described by Sander under the name of original systematized insanity, on account of its nature and precocity, that foreign authors, as was stated in the preceding chapters, call *paranoia primaria*.

The insanity of degeneracy may, however, manifest itself, not merely in an ordinary form, but also under an aspect that is peculiar to itself. It is then a special type, variable in its delusional expression, but with uniform and, so to speak, pathognomonic characters. The delusions are connected, coherent, lifelike, starting from false or misinterpreted data, but eminently logical in their deductions; they are never accompanied with hallucinations aside from hypnagogic or oneiric hallucinations exceptionally in certain cases; they develop by progressive extension of the parent idea, but without undergoing transformation or losing their earlier physiognomy; they reveal themselves in more or less chimerical, but persistent and tenacious claims, very often aggressive and dangerous; this form is incurable notwithstanding frequent remissions, and it usually terminates in cerebral complications.

The lunatics of this class have been placed among the *reasoning* insane on account of the persistence of their lucidity and the logical character of their delusions. They have also been called *persecutors* from their very characteristic tendency to employ violent methods to advance their cause. The public, easily deceived by appearances, often takes them for victims embittered by injustice, and it is not uncommon for their delusive ideas to communicate themselves to one or several persons among their friends (*folie à deux*).

In reality they are hereditary degenerates, possessors of very marked mental and bodily imperfections; egoists, arrogant, malicious, greedy of notoriety and popular attention, and their delusions, the more dangerous from their probability and lack of recognition, impel them to the most striking adventures and the most serious crimes. We are indebted especially to the works of J. Falret, of his pupil Pottier, and of Krafft-Ebing, for our knowledge of this class of the insane.

The characters above indicated will suffice to give a correct idea of the persecutors, but something more will be said in regard to the principal varieties of their insanity, according to which they are divided into: persecutory, ambitious, litigious, erotic and jealous, mystical, and political types. At bottom, however, we have the same disease and the same class of patients in all; they differ only in the coloring of their predominating ideas.

Persecutory Cases.—Contrary to what occurs in simple insanity of persecution, the delusions are here immediate, without hallucinations, perfectly logical and objective. A soldier, a priest, or an employé, with the abnormal conditions of heredity and temperament we have described, becomes the subject of a reprimand or some disciplinary punishment on account of his misbehavior or his professional deficiencies; instead of accepting the correction, his pride revolts, he calls it injustice and poses as a victim. He is therefore persecuted, but, from the first, he becomes a persecutor. He protests, makes charges and appeals so loudly and energetically that he is changed or loses his position. He sees in this only a new grievance and his pathological spite increases. Thereafter he sets no limits to his demands; he makes charges upon charges, complaint after complaint, to the authorities; he draws up long justificatory memoirs, writes to the journals, posts handbills, and appeals to the public in behalf of the legitimacy of his cause. Often, the administration, wearied with his importunities and touched by his precarious situation, accords him some compensation or indemnity; but this act of favor only renders him still more haughty and exacting, as he considers it an admission and recognition of his rights, so much so that at last, exasperated by his poor success, beset by poverty, and tormented by his fixed idea, he passes from complaints to threats, and from threats to crime. Sometimes these individuals fire a pistol in

the Chamber of Deputies, on the passage of a minister or the head of the State, declaring that they want "to call attention to themselves and secure justice" (false regicides of Régis); sometimes they murder some one, perhaps their supposed enemy, perhaps even some unknown person, in order to be brought before the courts where they can finally *expose their wrongs to the public gaze.* If confined in an insane asylum, they protest energetically against their arbitrary sequestration, which is only an additional injury to their minds, they demand an inquisition, endeavor to escape, to kill some one, or, on the other hand, they profess to have given up their delusions and make the most handsome promises; but as soon as they have, in one way or another, regained their freedom, they commence at once again their demands and their criminal acts.

Such, in brief, is the history of the reasoning persecutory cases or the persecuted persecutors. Many of them have become widely known for the notoriety they have achieved, and the advocate Sandon, the persecutor of the minister of the Empire, Busson-Billault, will always, in the opinion of many, be remembered as an undoubted victim of the errors of science, from having found in some writers, blinded by political zeal, the virulent defenders of his pathological grievances.

Ambitious Cases.—The ambitious persecutors differ in no respect from the persecuted persecutors, except in one point: that is that their demands have

for their object, not the reparation for an injury, but the recognition of an invention, a fortune, or a title for which they are contesting. Aside from this their delusion has the same evolution and mode of displaying itself. Without speaking of the cases of this kind which have given rise, of late years, to curious lawsuits, I will cite that of the woman of Bordeaux who, after vainly demanding, with innumerable complaints and charges, but all apparently logical, the property of a well known banker, ended one fine day by forcibly installing herself there with her son, whom she had made to share her delusional convictions. I have at present under observation, in the service of M. Pitres, at Bordeaux, a reasoning degenerate who calls himself the son of Jules Grévy. His dying mother, he says, revealed to him the secret of his birth. Since that time he has not ceased to besiege the ex-president of the Republic with his letters and his visits, calling him "my dear father" and demanding frequent subsidies. Confined for two years at St. Anne, after a demand without doubt a little too pressing upon the supposed author of his existence, he has evidently seen in it only one of the machinations of the individuals interested in causing him to lose a part of his inheritance. He never fails on a certain day of the year, that of St. Jules, and on various other occasions, to write an affectionate letter to M. Grévy, and he shows triumphantly, in support of his sonship, the mail receipts showing that his letters reach their des-

tination, for which he always takes care to ask. I do not know whether this individual, who is in his way a persecutor, since he annoys M. Grévy with his fondness and his filial demands, will end in raising his requirements and energetically claiming his birthrights, but this is in the order and may be considered as a natural consequence of his delusion.

Litigious Cases.—The litigious persecutors have been specially studied in Germany by Brosius, Snell, Liebmann, and particularly by Krafft-Ebing who has described their malady under the name of *Querulanten Wahnsinn*, or *mania for disputes or lawsuits.* Their delusion is only a variety of reasoning persecutive insanity the characteristic of which is to keep up legal proceedings.

An observation of Legrand du Saulle, unfortunately too long for reproduction here, and to which I refer (*Annales médico-psychologiques*, 1878), can serve as an excellent description of this form. I will content myself with giving, in brief, here another interesting case reported by M. Pottier in his inaugural thesis. It was that of a young woman who, having had disputes with the municipal commission of St. Ouen, in reference to the work on a sewer that affected her dwelling, began suit against the commune. At the same time she wrote to all the ministers, had her demands printed for circulation, and addressed them to the authorities, and accused the courts, the police and the "coalition of dishonest persons leagued against her." On the

twenty-first of January, 1886, she entered the Chamber of Deputies, walked up to the public tribune, wrapped up in a flag and crying "Justice," threw her pamphlets to the public, the members, and the president. On her flag, made by herself out of a piece of calico, was represented a besieged house with this inscription: "Drama of St. Ouen, 7th July, 1884. Appeal to MM. the Deputies. Invasion of Ballerich and a band of assassins, who have overrun us." The ushers arrested her and led her to the questure. When examined, she said she wished "to make a disturbance in order to call attention to herself and her affairs," and that she had previously informed M. Grévy, the president of the Republic, by letter, of this manifestation. She was allowed her liberty, and a month later, February 23, was arrested at her home for having placarded her house with "Invasion of Ballerich, the infamous! Justice!" She was then sent to the Salpêtrière. An interesting feature of this case is that the husband of this patient shared her delusions and signed with her the printed protests. This fact of communicated litigious insanity is, however, not infrequent, and is shown even more clearly in one of the observations in my thesis on the *folie à deux.*

Erotic and Jealous Cases.—A typical case, published by M. Taguet, will enable us to appreciate the erotic persecutors and will show that they are similar to all the other reasoning lunatics of whatever category.

"M. X... entered one of the great houses of France as a tutor. The kindly reception offered him by the Princess de .... led him to hope that he might gain her affection. One day when the princess was occupied in writing bending over her desk, X... forgot himself so far as to imprint a kiss upon her neck. The offense was great, but he could not atone to her, and her husband, being informed, did not disquiet himself further about it.

M. de... died, and the heart of the princess was free. From that moment X... kept writing to her strange, foolish letters, protesting the purity of his intentions and recurring constantly to the old history of the kiss.

Finally he consented to leave Paris, but returned almost immediately. The princess having shut her doors to him, he installed himself in a house that permitted him to spy her slightest movements; during the day he followed her in the churches, in the magazines, and in the streets. One evening he forced his way into her carriage and covered with burning kisses the hand of a *femme de chambre* whom he mistook for her. At night he threw sand and little pebbles against the windows of her apartment.

On the complaint of M. le duc de..., brother-in-law of the princess, X... was ordered confined, after an examination by Professor Lasègue. At the asylum his delusions continued and he tried to prove that he was loved by the princess. How could

otherwise be explained that invincible attraction that they felt for each other, those projections forward of the pelvis and those nervous spasms that Madame de... experienced in his presence, those pressures of the foot, that fluid that ran through their fingers when they met?

When restored to liberty his first care was to sue MM. le duc de... and doctors Lasègue and Girard de Cailleux for illegal sequestration, claiming one hundred thousand francs damages. He lost his case.

After the war in which he served as captain of *mobiles*, X... appealed from the judgment that had condemned him and demanded to be allowed to plead his own cause. He lost in the appeal but sued for a writ of error.

X... is, as is seen, not only an erotomaniac, but also a case of persecutive and litigious insanity, proving thus that the various forms we have described are not distinct forms, but simple varieties of phrenasthenia, capable of coexisting in the same subject

The *jealous persecutors* are analogous in all points. The following is a personal observation, also interesting in this point of view.

Some years since I had occasion to examine a young lady whose delusions were as follows:

This lady, a hereditary and degenerative case, although very intelligent, became jealous of her husband whom she blamed for not fulfilling his

conjugal duties and for spending his evenings away from home with his friends. Having been present at a trial for separation in which unnatural relations between a husband and his servant had been charged, she was much impressed by the revelations of these abnormal acts, of which she had not been aware of even the existence, and this was to her a beam of light. From that moment she imagined that if her husband neglected her, it was because he had shameful relations with one of his friends, M. X..., and every evening, sometimes to a very late hour, she followed him in the streets and spied on him through the windows of the café where he went to play his game. Her daughter, a young woman of eighteen, very virtuous and lady-like, was informed by her of her suspicions and shared them fully, accompanying or replacing her in her nocturnal watches. Madame X..., wrapped up in her fixed idea, sought and found decisive proofs in everything. Her husband came home late, fatigued and with dark rings around his eyes, that was because he had been indulging in his infamous vice; he talked in his dreams, he was then calling his cicisbeo. The poor woman went so far as to scrutinize his soiled linen, and found in his shirts and handkerchiefs traces of his illicit pollutions. She showed us at our examination a shirt of M. X..., spotted in the back in several places from pimples that had suppurated, and which she had preserved carefully for a month as an evidence,

deducing even that her husband in his unnatural practices with his accomplice, had been the agent *a posteriori*, i. e., had played the passive part.

Full of this idea, and while her daughter, excited by her, inserted into her "*cahier bleu*" maledictions against the infamy of her father, she became fully a persecutor, and had encounters with the friend of her husband, insulting and threatening him in public, to the extent of creating a disturbance.

The mother and daughter happily decided to leave for Paris, where they are living, without my being able to learn exactly to what their delusions have come.

Mystics.—Of all the persecuting insane the mystics are the ones that present the most special physiognomy. Mystics by temperament, often also by heredity, they have an instinctive tendency to religious enthusiasm, and by a more or less gradual process, they come to conceive a religious system which they seek to spread and make prevail by all possible means. Their profound conviction, their enthusiastic appeals, and their exalted writings, bring about sometimes surprising results, and it is not uncommon for them to draw after them a crowd of proselytes devoted to their cause even to the sacrifice of their lives. But the point that especially distinguishes them, as compared with other reasoning insane, is the frequent occurrence of hallucinations. These have in them characters that are altogether peculiar. They consist in supernatural

revelations in the form of apparitions of the Deity, the Virgin, or the saints. These apparitions occur by preference in the night time, at intervals, and are confused with the sleep to an extent that it is not easy to distinguish whether they are genuine hallucinations or purely oneiric phenomena, i. e., appertaining to dreams.

Whatever they may really be, these apparitions have the effect of causing the delusive convictions of the patients, and confirming them in their predominating idea that they have a divine mission to fulfil. God, the Virgin or the saints, appear before them in resplendent forms, sometimes with sounds of celestial music, and after having indicated to them, in a few seemingly sybilline words, what they are to do for humanity and the means they are to employ, disappear, leaving behind them as it were a trail of light and harmony. Sustained by these fantastic visions which give them the most exalted ideas of their mission and which often attract to them the reverence of the masses, they boldly come to the front, braving punishment and death, drawing peoples and armies after them, and it is in this way that the founders of religions have been able to accomplish such surprising results and stir so profoundly the faiths of humanity. Without mentioning those of this class whose insanity is incontestable, I will refer, as examples, to the Swede, Emmanuel Swedenborg, and Louis Riel, the Canadian agitator, hung at Régina, November 16,

1885, after having been twice confined as an insane person.

The political phrenastheniacs are the same as the mystics, but with their predominant ideas directed to matters of government or state policy. It is not infrequent, moreover, for their delusions to be at the same time composed of both political and religious ideas. They may show their tendencies in various ways, but they are best represented by the *regicides*, a name given here to those fanatics, who, apart from any sect or conspiracy, have assassinated or attempted to assassinate a monarch or ruler of their day. In the recent work I published on celebrated regicides of past and present times, I have demonstrated that, identical in all countries and periods, notwithstanding some apparent dissimilitudes, they are hereditary degenerates, with a mystical temperament, who, misled by a political or religious delirium, sometimes complicated with oneiric hallucinations, believe themselves called to fill the double *rôle* of agents of justice and martyrs, and, under the domain of an obsession they are not free to resist, they attempt to destroy some great personage in the name of God and their country.

The essential ruling idea of the regicides' insanity is that of their glorious mission, and, as I have pointed out in regard to the simple mystics, their hallucinations, when they have them, consist in intermittent nocturnal apparitions, intimately associated with dreaming and sleep.

Folie à deux.—I have stated and have shown in some of the cases cited, that the reasoning insanity of the degenerates, whatever its form, persecuted, ambitious, litigious, erotic or mystic, is often communicated by the patient to one or more individuals of his immediate surroundings. It is indeed in these conditions that the *folie à deux* or communicated insanity, described incidentally by Baillarger and extensively and thoroughly by Lasègue, Falret and Legrand du Saulle, is developed. At other times *folie à deux* consists, not in the communication of a delusion from one person to another, but in its simultaneous appearance, and by reciprocal influence, in two predisposed individuals who are together. This is what I have called *simultaneous folie à deux.* I must mention also the *imposed* insanity of Marandon de Montyel, which is only a variety of communicated insanity, and the *folie gémellaire* of Professor Ball and certain English authors, characterized by the simultaneous appearance of a similar insanity in two twins, even at a distance from each other. Lastly some foreign authors have described, under the name of *induced* insanity, the addition of new delusions to the original insanity of a patient, under the influence of his association with other patients.

Reasoning Phrenasthenias.

(*Moral Insanity*).

Under the name of reasoning phrenasthenias, I designate the moral insanity of certain authors.

Strictly speaking there is no need of giving a special name to the maladies of this type, since they can be included among those of the preceding class. Like them, they are victims of heredity, essentially degenerates, and have clearly marked bodily and mental defects. The distinction between the two is merely in the fact that only exceptionally do they have delusions, properly so-called, and that their vice of organization reveals itself especially in perversions of the sentiments and the affections. They are the individuals who, with apparent full reason and judgment, permit themselves, in an unconsious and frequently paroxysmal manner, to indulge in errors of conduct, inconsistencies, excesses, and immoral acts that are really pathological, whence the term morally insane that has been applied to them. Fundamentally, and although apparently less insane, they are more profoundly degenerate than the delusional cases, and they border a more marked degree of mental infirmity, imbecility.

Instinctive Phrenasthenias.

(*The Criminal Psychosis*).

What has been said above is still more true of the individuals affected wlth instinctive phrenasthenia, in whom the degeneracy shows itself particularly by an innate tendency to perverse or criminal acts.

The born-criminals of Lombroso and the Italian school unquestionably belong to this variety of the degenerates. It would be indeed a mistake to believe

that there is a special form of insanity having for its symptoms a tendency to crime, i. e., a pure criminal psychosis. The proposition should be reversed, as it is more correct to say that there is a class of criminals presenting clearly a more or less evident vice of organization. But whatever has been pretended, the somatic anomalies of these beings should not be considered as peculiar to them. It is possible and even probable that certain characters of degeneracy are met with more frequently in a determined morbid variety, comparing among themselves its various members, and that exaggeration of the great *envergure*, asymmetry of the face, prominence of the cheek bones and the superciliary arches, increased size of the lower jaw, the presence of the sub-occipital fossa and the lemurian appendix, to cite only these, are especially marked in criminal degenerates. This, however, is no ground for seeing in the degeneracy of criminals a special teratological vice due to a special cause, such, for example, as the reversion to the savage ancestral condition. The degeneracy is always one, and varied as may be its stigmata, it is none the less identical in its origin and consequences.

The born-criminal is therefore only an instinctive degenerate, just as the insane persecutor is an intellectual and reasoning degenerate.

There is much to be said on such a living question as that of criminal degenerates, which, under the magnificent influence of Lombroso, has been the subject, in recent years, of so many interesting

memoirs in the different countries of Europe, notably in Italy, France and Russia. But, by a rather curious scientific evolution, the study of the criminal, at first purely anthropological, has gradually taken a new direction, and, enlarging itself by degrees, has now become plainly a sociological one. The criminal, in fact, as has been well said by Lacassagne, is a microbe inseparable from his culture broth, the social surroundings. The complete study of the criminal appertains therefore, for the present, rather more to sociology than to psychiatry, properly speaking, and in the period of investigations we are passing through, we can only refer the reader to the well known works of Lombroso, Manouvrier, Sergi, Garofalo, Tarde, and Lacassagne, which include all the data at present known on this subject.

§ IV. MONSTROSITIES.

(Imbecility, Idiocy, Cretinism).

The monstrosities, which represent the highest degree of vices of organization or mental infirmities, comprise: imbecility, idiocy, and cretinism.

Imbecility.

The imbeciles may be in certain instances, well formed, vigorous, and healthy: generally, however, they exhibit characteristic bodily anomalies.

Their cranium, small or voluminous, is liable to the most varied malformations and asymmetries;

their physiognomy denotes their deficient intelligence, and often suggests by its general configuration, the appearance of an animal; the forehead is low and straight, the ears ill formed and badly inserted; the eyes are small, expressionless, often strabismic; there are also lisping, prognathism, anomalies of the velum palati, the uvula, and nearly always also of the genital organs, which are sometimes remarkable for their rudimentary conditions, sometimes, on the other hand, from their exaggerated size.

In a psychic point of view, the imbeciles possess only a more or less restricted intelligence; they learn to read, write, and count, with difficulty; while susceptible of acquiring a slight and superficial tincture in everything, they are incapable of a correct and consecutive course of conduct and of doing anything in earnest. Nevertheless, some of them, notably weak-minded, though in a slighter degree, have exhibited more or less brilliant artistic ability, great qualities of memory or imitation, and often also a certain vivacity of spirit, a promptness and shrewdness of repartee which gives them always the last word and puts the laughers on their side. This peculiarity which is very striking in them and is in marked contrast with the profound deficiencies of their intelligence, explains why they were chosen in former times as buffoons by kings whom they brightened with their sallies and *bon mots*.

In a moral point of view the lacunæ are perhaps

more marked than in the domain of the intellect, and if these patients are capable of showing to varying extent, sentiments and affections of a low order, they are only the least elevated ones, and the lower instincts that dominate them. The majority are vain, gluttonous, cowardly, credulous, idle, irascible, inclined to venereal and alcoholic excesses and to acts of violence (Marcé); nearly all are given to onanism, and some even to unnatural crimes. At certain times they may be seized more or less suddenly with melancholic or maniacal attacks, during which they are particularly liable to commit acts of obscenity, or even arson, robbery, suicide, or homicide. When these attacks, which very often assume in them a periodical or circular character, occur many times, the patients soon fall into a condition of dementia.

Idiocy.

Idiocy, formerly confounded with all the other mental infirmities and all conditions of intellectual obtunding, has been elucidated especially by Esquirol, who differentiated it from dementia. His classic definition is well known. "The demented man," said he, "is deprived of the good that he formerly enjoyed; he is a rich man become poor: the idiot has always lived in misfortune and poverty."

Esquirol recognized three degrees in idiocy and to-day also we still admit generally two classes of cases in that condition of mental infirmity: (1)

idiots of the second degree; (2) idiots of the first degree, or complete idiots.

(1). The idiots of the second degree hold the middle place between the imbeciles and the complete idiots.

Physically, they present very marked vices of conformation in different parts of the body. Their stature is generally small; their hands those of a child, and often presenting special peculiarities (idiot hand). The head is usually small and irregular, sometimes, on the other hand, it is enormous; their face lacks expression; deaf-mutism, strabismus, congenital fissure of the palate, anomalies of the ear, teeth, tongue, genital organs, and various bodily deformities are very frequent in them; they are subject to peculiar *tics*, to choreiform movements, to rumination (*mérycisme*); they often have paralysis, especially infantile paraplegia or hemiplegia with atrophy and contractures; their sensibility is very dull and sometimes almost abolished; and lastly they are subject to neuropathic complications and epilepsy in particular.

Intellectually, their faculties are extremely limited and, as it were, in a rudimentary condition. Generally they pronounce only a few words or phrases, which form their whole vocabulary; they can eat alone and know how to select their food; they recognize those who live with them, and show some attachment to those who care for them. But, apart from some isolated artistic aptitudes, not capable of cul-

tivation, they have, properly speaking, no intelligence; their education is *nil*; they hardly know their age or names, and are unable to give the least indication as to the course of years and months, the value of money, the difference in colors, etc., etc.

According to Sollier (1891) the psychology of the idiot is summed up in the more or less complete absence of the primordial faculty: the will.

Morally, the sentiments and affections are altogether absent and are replaced by the instincts. The sexual instinct is particularly developed; the majority of these unfortunates masturbate in public and before their associates without the least appearance of shame; others commit pæderasty, run after all women, or exhibit their genitals in the street. Finally, these idiots, like the imbeciles and complete idiots, are very often affected with epilepsy. Naturally passionate, they may be seized with attacks of maniacal agitation during which they give utterance to savage and inarticulate cries, and give themselves over to acts of violence that are absolutely bestial.

(2). In the complete idiots the physical and mental development reaches its lowest limit, which is shown by the total absence of intelligence, the sentiments, sensibility, and even certain instincts. The majority are hideous appearing, rachitic, covered with scrofula, afflicted with all kinds of vices of conformation, partial paralyses, and contractures, choreic and convulsive movements, automatic *tics*, and very often epilepsy. Many are blind, deaf,

dumb, deprived of the senses of taste and smell, absolutely incapable of walking, dressing themselves or feeding themselves. Their physiognomy is stupid, expressionless, the evacuations are involuntary, the saliva drools constantly from between their half-opened lips, raucous and inarticulate cries escape from their throats; the second dentition does not occur, no sign of puberty appears: at twenty, these unfortunates seem only four years old. Everything is reduced in them to the accomplishment of the last vegetative functions, and the only signs of life they manifest are their automatic balancings and their unconscious manœuvres of masturbation. Such a condition is incompatible with any long existence, and these idiots of this degree hardly live beyond twenty-five or thirty years.

Etiology.—Idiocy and, consequently, the various arrests of development that we are studying, recognize heredity as their principal cause, especially that of mental alienation, epilepsy, hysteria, alcoholism, syphilis, and consanguinity of parents. Even when idiocy is not congenital but, as has been said, acquired, heredity is nearly always the primary cause, not directly, but indirectly through the infantile disorders such as meningitis, convulsions, hydrocephalus, etc., that it causes. Together with heredity, have been noted as adjuvant causes, blows, falls on the head, compression of the head during labor, and also, the compression practiced

in certain countries to give the heads of infants a determined form.

Pathological Anatomy.—The lesions susceptible of being observed in cerebral weaknesses, and notably in idiocy, usually involve the whole of the head, and may be divided into *external* and *internal.*

1. There is, properly speaking, no special deformity of the cranium peculiar to idiocy. All described anomalies may be encountered, from the most simple which manifest themselves in a simple diminution of the cranial volume without changing its proportions, up to the most complex, shown by the various deformities known as scaphocephaly, plagiocephaly, etc., etc.

In a general way, and apart from those cases where the idiocy is connected with chronic hydrocephalus, the most constant deformity is microcephaly, with corresponding diminution of the cranial cavity. The diameters most affected are generally the transverse, so that, contrary to the great majority of cretins, the idiots are more dolicocephalic than brachycephalic. The sutures sometimes ossify prematurely, either throughout or by preference at certain points; sometimes, on the contrary, they ossify only late or not at all. In this last event they are often filled with a large quantity of wormian bones.

2. Excluding certain exceptional cases in which the brain is more voluminous and heavy than nor-

mal, the diminution of the volume and weight of that organ is the most constant and remarkable alteration in idiocy. The brain weight in idiots varies from 700 to 1,100 grams.

Besides this alteration, there are others, such as marked inequality of the hemispheres, atrophy of one of them; rudimentary condition of certain regions, especially the anterior lobes; absence of certain parts, such as the corpus callosum, the central nuclei, the fornix, etc.; various lesions, such as hydrocephalus, porencephaly, atrophic, hypertrophic and tuberculous scleroses, smoothness, thinning, or even absence of certain convolutions, especially the frontal ones, with greater or less enlargement of the fissures and sulci, particularly the fissure of Sylvius. Finally, in a histological point of view, we find various alterations of the structure of the nervous substance, softening of the gray matter, presence of numerous idiot cells, and also certain anomalies of the cerebral circulation, recently described by M. Luys.

Bourneville distinguishes, from an anatomico-pathological point of view, the following forms in idiocy: (1) idiocy symptomatic of hydrocephalus (hydrocephalic idiocy); (2) idiocy symptomatic of microcephaly (microcephalic idiocy); (3) idiocy symptomatic of an arrest of development of the convolutions; (4) idiocy symptomatic of a congenital malformation of the brain (porencephaly, absence of corpus callosum, etc.); (5) idiocy symptomatic of

hypertrophic or tuberculous sclerosis; (6) idiocy symptomatic of atrophic sclerosis: (a) sclerosis of one or both hemispheres; (b) sclerosis of one lobe of the brain; (c) sclerosis of isolated convolutions; (d) sclerosis *chagrinée* (like shagreen) of the brain (?); (7) idiocy symptomatic of chronic meningitis or meningito-encephalitis (meningitic idiocy); (8) idiocy with pachydermic cachexia, or myxœdematous idiocy connected with absence of the thyroid gland. This last form is also called cretinoid idiocy, cretinoid pachydermia, or sporadic cretinism. It will be noticed later on in the remarks on cretinism.

Diagnosis. Prognosis.—The diagnosis of the monstrosities is generally very easy, as they can hardly be mistaken for dementia. The only point consists in determining the exact degree of the arrest of development, since, as has been said, the limits between the different varieties of cerebral infirmities are not clearly defined.

As to the prognosis, it is not necessary to dilate upon its gravity. Complete idiocy is incompatible with a long life. Incomplete idiocy and imbecility are only susceptible of a slight modification under the influence of special treatment.

Treatment.—Thanks to the efforts of Belhomme, Félix Voisin, Séguin, Delasiauve, Bourneville, etc., a therapeusis and a special pedagogy has been gradually formed for idiots. This treatment, the special

rules of which cannot be given here, consists in the wisely combined employment of hygienic, moral, and intellectual agencies.

Some recent trials of craniectomy (Lannelongue, of Paris) in idiots with premature synostosis of the cranial bones seem to have given good results. This intervention of surgery in certain special cases of idiocy may possibly have a certain future usefulness.

Cretinism.

Definition.—We designate under the name of cretinism, an arrest of development of the organism, with special features involving particularly the physical constitution, of endemic origin, and habitually accompanied with goitre.

The cretins are usually divided into three classes, representing the three progressive degrees of degeneracy: 1, the cretinoid or sluggards; 2, the semi-cretins; and 3, the cretins.

1. The cretinoids are essentially characterized: intellectually, by the symptoms of more or less complete imbecility; physically, by the signs of the first degree of the cachexia. These signs consist mainly in the flattening of the nose, the size of the mouth, the earthy color of the skin, the puffiness of the face, the bad implantation and condition of the teeth, a general arrest of development of the organism, more or less pronounced, and lastly in the existence of a goitre of varying size. The head is generally rather

large, and clearly brachycephalic in type, as is the case with most cretins. According to Cerise, the cretinoids have always also a rather marked fronto-occipital depression. They are apt in reproduction.

2. The semi-cretins differ especially from the cretinoids in the much more marked degree of the external signs of the cachexia. The difference is slighter as regards the mental condition; moreover, the majority of the cretins are not properly idiots, and in some of them the intellectual deficiencies are not at all proportional to the physical degeneracy. The semi-cretins are generally squat in figure, their limbs stumpy, the joints large and swollen, the neck short and thick; at other times they are, on the other hand, thin and slim; their head is large, and particularly broad, their eyes bulging, and half covered by the swollen lids; their cheeks and lips are flaccid and pendant, their teeth carious and badly implanted; their skin is clayey, their goitre voluminous. Their gait is vacillating and irregular; their *sphincters* are relaxed; their respiration stertorous and wheezing; their tongues hanging between the open lips drip with saliva. Their sensibility is very obtuse, their intelligence very limited, and their speech, very imperfect, is limited most often to a few monosyllables. Quite unlike the full cretins, they have voluminous genital organs and nearly always give evidence of a great salacity.

3. The complete cretins, entirely lacking in intellectual and reproductive faculties, as well as of

reproductive power, endowed only with vegetative faculties, represent the highest degree of cretinoid degeneracy (Marcé). They resemble young infants and have, like them, the chest weak, the abdomen prominent, and their teeth are of the first dentition. The goitre when present is slight, which is explained by the absence of puberty. Their genital organs are altogether rudimentary. They can hardly walk and sometimes remain in a condition of absolute immobility. All their senses are obtunded, and sometimes *nil;* their voice is reduced to rancous cries or to gruntings that have nothing human in them.

Etiology.—It appears from the numerous works on cretinism that this form of degeneracy recognizes no single cause, but that it is the result of many cumulative ones.

Some of these are found in the geological constitution of the soil, the altitude, the topography, the chemical constitution of the air and water. It is a well known fact that cretinism is endemic especially in certain narrow valleys of the Alps, the Pyrenees, of Auvergne, Scotland, Tyrol, New Grenada, and Hindostan. In France, the department of Haute-Savoie is that which furnishes the most cretins. These valleys are, for the most part, contracted; humid, deprived of air, light and sun, and at nearly an equal altitude above the sea. Their villages are built against the sides of the mountains and the houses are low and damp. The soil is magnesian,

the waters coming from the melting snows is hard, badly aerated, mixed with silex, charged with lime salts, and lacking in bromine and iodine. Moreover, in the infected villages the hygienic conditions are very poor and the unfortunate inhabitants live in a very repulsive state of uncleanliness.

Together with these causes which exist in all countries where the cretinous degeneration prevails and which make it there endemic, are to be considered individual causes consisting especially in heredity, consanguineous marriages, etc. Whether the goitrous and cretinous cachexias are the same or not, it is none the less true that the cretins represent the most degraded products of a race that begins with goitre and that the goitrous and the cretins mutually engender each other.

Nature.—It is not fully agreed as to the nature and the ultimate cause of cretinism. One of the most accepted theories consists in considering cretinism as a diffuse œdematous hydrocephalus, produced by the compression exerted by the thyroid or thymus gland on the cervical vessels. This theory, nevertheless, is open to many objections, the chief of which is that certain cretins, the complete cretins, are either not goitrous or only slightly so. It is more probable that cretinism is the result, not of a mere mechanical compression, but of the abolition of the physiological function of the thyroid gland.

However it may be, if these theories are correct,

it only places the difficulty a little farther back, since it will always be necessary to explain either the origin of the goitre or of the hypertrophy of the thymus in the cretins.

There is nothing special in the pathological anatomy of the cretins. It consists, the same as in idiots, of decrease of volume and weight of the brain, narrowing of the cranial foramina, especially the occipital, and atrophy of many parts, notably of the convolutions.

TREATMENT.—The most important matter relative to the management of cretinism is prophylaxis. This consists in the application of hygienic means to counteract the general causes of the degeneracy. It is well known that with the opening of roads, the sanitation of the villages, the procurement and control of proper sources of drinking water, and lastly, with the diminution of poverty in the affected villages, goitre and cretinism have both decreased in frequency. The same will be true as regards properly selected marriages that can, in a measure, combat successfully the hereditary element.

As to curative treatment, it consists in the removal of cretin infants and their transfer to healthy regions, in an appropriate bodily and mental training, and, finally, in the use of iodine and its preparations.

Sporadic cretinism. Cretinoid idiocy. Idiocy with pachydermic cachexia. Cretinoid pachy-

dermy. Myxœdematous idiocy.—Under these various designations there has been described a physical and intellectual arrest of organic development, offering the general features of cretinism, but not, like it, arising from an endemic condition. The only special peculiarities really belonging to this condition seem to be the almost constant existence of pseudo-lipomatous masses located especially in the sub-clavicular hollows, and in the almost pachydermatous or myxœdematous appearance of the subjects.

M. Bourneville, who has, in recent years, brought together under the name of myxœdematous idiocy the most of the known cases of sporadic cretinism, attributes this form of degeneracy to the absence of the thyroid gland. This opinion, which has long been advanced in England, particularly by Curling in 1850 and Hilton Fagge in 1871, is not absolutely correct, as, in a case reported by Bucknill and Tuke and in another reported by M. Arnozan and myself in 1888, there was an evident goitrous hypertrophy. Instead of saying with Hilton Fagge, that "goitre is never present in sporadic cretinism," or with Bourneville that "myxœdematous idiots do not have the thyroid gland and therefore no goitre," it is better to conclude, as Robinson did in 1886, that in sporadic cretinism "the thyroid gland is either absent or affected with some organic alteration."

Formulated in these terms, the opinion that attributes a thyroidian origin to sporadic cretinism

is very plausible, and has an important confirmation in the probable pathogeny of certain conditions, such as myxœdema, cachexia strumipriva, and experimental cretinism, regarded with reason by Ord and some other authors "as forming with cretinism a single disorder, that has for its direct cause the loss of the functions of the thyroid gland."

The most recent researches on this subject authorize us to believe that the thyroid body is a vascular gland, the secretion of which assists in the elimination or neutralization of certain toxic products of denutrition. Cretinism and allied states (sporadic and experimental cretinism, cachexia strumipriva, myxœdema), will therefore have a common origin, and be due to an intoxication of the organism from the absence or suppression of the function of the thyroid gland.

Supporting themselves on these facts, Horsley, Lannelongue, Bettencourt-Rodriguez, and some others, have recently tried to graft the thyroid gland of the sheep into the subjects of myxœdema and cachexia strumipriva, but this operation has not yet given satisfactory results.*

* Since the above was written, numerous observations have been reported in which favorable results have been apparently obtained by thyroid transplantation and especially by the internal and hypodermic administration of thyroid extract in myxœdema.—(TRANSLATOR).

SECOND GROUP.

DEGENERACIES OF INVOLUTION.

(DISORGANIZATIONS).

SIMPLE DEMENTIA.

Dementia is an acquired cerebral infirmity, characterized by failure of the intellectual and moral faculties. It has long been confounded with idiocy and with stupor, which Esquirol considered to be an acute dementia. It is not necessary to restate here that this last is due to an obtunding, and not to a weakening of the intelligence.

ETIOLOGY.—Dementia is the consequence of a host of different causes. It is divided into primary and consecutive forms, according as it appears all at once of itself, or follows another disorder of which it is then the final stage. This is much the most common occurrence, so much so that M. Ball has said that dementia constituted a *point of arrival* rather than a *point of departure*. Primary dementia is that which is due to age (senile dementia), or to organic changes of the brain (apoplectic, paralytic dementia, etc.), consecutive dementia is that which forms the termination of the various insanities (vesanic dementia), epilepsy, alcoholism, arrests of

development, and, in a general way, all the disorders that end at the expense of the mental and moral faculties.

Description.—I must confine myself here to describing simple dementia, that is, the acquired cerebral infirmity constituted by intellectual enfeeblement. This is the skeleton of dementia, the common basis of all its varieties; as regards the peculiarities, delusional, etc., that it presents in certain cases, they are only superadded symptoms that will be noticed in connection with the various pathological conditions of which they are the consequence. The type of simple dementia is represented by *senile dementia without delusions.*

Three periods can be distinguished in dementia: (1) an initial period; (2) a middle stage; (3) a terminal period.

1. *Initial Period.*—It is exceptional to see dementia appear suddenly. Generally its beginning is insidious, and the mental weakness is already more or less profound when it is recognized. First of all, there is a more or less decided incapacity for work, a lack of precision and lucidity in business, in the ideas and judgments, also errors in figures and calculations. Soon defects begin to appear in the memory which is, usually, the first faculty affected. The amnesia first involves only recent, and consequently the least adherent (Kussmaül) recollections, while, on the other hand, the older ones come up in

crowds and have a special revivication. The patients forget what they have done and said, they lose their objects, they do not recollect what they intended to do when they have their work half done. When they talk, they constantly repeat, forgetting names and words, the same stories in the details of which they wander losing every minute the thread of their discourse. Their character changes at the same time, and as regards this feature, we can recognize two classes: the *apathetic* and the *excited;* the ones placid and good natured, the others irritable and cross-grained to excess. Generally, at this time, they begin to lose their good manners, their habits and good tone, and to offend in their talk, their gestures, and dress against the most elementary rules of politeness and decency.

2. *Middle Period.*—After a longer or shorter time, the patients become absolutely incapable of serious and sustained employment, and their dementia makes notable progress. From recent facts, the amnesia extends to ideas, words, scientific or professional notions, to acquired languages, and spares only the first acquisitions of the earliest ages, so that it perfectly justifies the popular expression "to fall into infancy." Hence results a puerility of ideas and language, a progressive diminution of the sentiments and affections which makes the dement a regular infant, credulous, without will power, excessively mobile, forgetful of the simplest matters and incapable of self-control. As regards speech he

becomes incoherent, not like the maniacs, in whom this is the effect of an excessive mental activity and is purely elliptical, but in consequence of loss of memory of words and expressions to employ. It is verbal incoherence, a species of characteristic aphasia. The same trouble as with speech occurs with writing.

In a still more advanced stage the demented patient is reduced to the condition of an automaton, and lives in the most complete unconsciousness. It is a curious fact, nevertheless, that although he has forgotten everything, even to the number, age, and names of his children, even his property, he can still sometimes carry on perfectly well, as by a sort of habit, more or less difficult occupations or distractions, such as reading papers, playing cards, checkers, billiards, etc. His speech at the same time is pure nonsense without any significance whatever.

There are also some physical peculiarities to be described: thus, the majority of the dements take on flesh and the organic functions are carried on in them with very great regularity. It appears as if the intellectual and the physical existence have become altogether independent of each other. On the other hand sleep is light, short, and often hardly occurs. In some cases, especially in those where the dementia is connected with an organic cerebral disorder, paralysis of the sphincters soon appears.

3. *Terminal Period.*—This is formed by an almost complete obliteration of the intelligence, and

by the progress of the organic cachexia. In a mental and moral point of view, the dement is at this time in the same condition as the idiot; nothing is as it formerly was. At the same time he loses flesh and appetite, becomes altogether untidy, and ends by dying in a more or less complete state of decrepitude, either from some cerebral or visceral disorder, or in consequence of trophic disorders or the progress of the cachexia.

Duration. Pathological Anatomy.—Simple dementia may continue for a longer or shorter period; generally its evolution is very slow and continues over many years. The lesions vary according to the cause of the dementia. It may be said, nevertheless, that in a general way the dementia corresponds to a cerebral atrophy and to degenerative changes of the nerve centres.

Treatment.—The treatment of dementia can be only palliative. In simple cases it is limited to hygienic and moral attentions, the employment of a regular surveillance, the use of certain medicines to ward off complications. When the mental enfeeblement is accompanied with delusions, and especially if with pathological acts, it is often needful to have recourse to sequestration.

SECOND SECTION.

SECONDARY CONDITIONS OF MENTAL ALIENATION.

(Associated or Symptomatic Insanities).

The associated or symptomatic insanities being, as has been shown in our classification, only the result of the combination of a simple generalized insanity, mania or melancholia, with any process whatever, physiological or pathological, of the organism, we might, strictly speaking, dispense with making them a special study. It is advisable, however, for the sake of completeness, to sketch broadly their principal characters, laying stress more particularly on such of them as by their frequency and their importance are brought especially under the notice of the practitioner.

In our description we shall follow the order of the table here presented, in which the symptomatic insanities are grouped, according to analogies of associations, under their usual designations. But it must be understood that this table is only an annex to our classification, that is not indispensable, a synoptical list, intended simply to assist the memory, and to receive in their places all the new varieties of associated insanities as they are recognized.

SECONDARY CONDITIONS OF MENTAL ALIENATION.

(ASSOCIATED OR SYMPTOMATIC INSANITIES).

I. PHYSIOLOGICAL CONDITIONS.

(SYMPATHETIC INSANITIES).

Infancy. Puberty	(Hebephrenia. Pubescent insanity).
Old age	(Senile insanity).
Menstruation	(Menstrual insanity).
Pregnancy	(*Puerperal insanity*).
Menopause	(Climacteric insanity).

II. LOCAL VISCERAL DISORDERS.

(SYMPATHETIC INSANITIES).

1. Geneto-urinary organs	Uterus and annexes	(*Utero-ovarian insanity*).
	Kidneys and bladder	(Brightic insanity).
2. Digestive apparatus	Stomach and intestines	(Gastro-intestinal insanity).
	Liver and bile ducts	(Hepatic insanity).
	Intestinal worms	(Helminthic insanity).
3. Circulatory apparatus	Diseases of the heart	(Cardiac insanity).
	Diseases of the vessels	
4. Respiratory apparatus	Diseases of lungs	

III. GENERAL DISEASES.

(INSANITY OF ACUTE DISORDERS. DIATHETIC INSANITY).

1. Acute	Variola. Erysipelas	
	Typhoid fever. Cholera. Grippe	

2. Chronic	Intermittent fever	(Malarial insanity).
	Rheumatism	(Rheumatismal insanity).
	Gout	(Podagrous insanity).
	Tuberculosis	(Tubercular insanity).
	Pellagra	(Pellagrous insanity).
	Cancer	(Cancerous insanity).
	Syphilis	(Syphilitic insanity).

IV. DISEASES OF THE NERVOUS SYSTEM.

(CEREBRO-SPINAL INSANITIES. NEUROTIC INSANITIES).

1. Cerebral	General paralysis	(*Paralytic insanity*).
	Local brain disease	
2. Spinal	Locomotor ataxia	(Tabetic insanity).
	Multiple sclerosis	
3. Neuroses	Epilepsy	(*Epileptic insanity*).
	Hysteria. Somnambulism	(*Hysterical insanity*).
	Chorea	(Choreic insanity).
	Paralysis agitans	
	Exophthalmic goitre	
	Asthma	

V. INTOXICATIONS.

(TOXIC INSANITIES).

Alcoholism	(*Alcoholic insanity*).
Saturnism	(Saturnine insanity).
Morphinism	(Morphinic insanity).
Haschischism	(Haschisch insanity).
Etherism	(Etheric insanity).
Chloralism	(Chloralic insanity).
Cocainism	(Cocainic insanity).
Oxy-carbonism	(Oxy-carbonic insanity).

Chapter IX.

INSANITY ASSOCIATED WITH PHYSIOLOGICAL CONDITIONS.

(Sympathetic Insanity).

I.—Insanity of Infancy and Puberty. II.—Insanity of Old Age. III.—Insanity of Menstruation. IV.—Insanity of Pregnancy. V.—Insanity of the Menopause.

§I. INSANITY OF INFANCY AND PUBERTY.

(Hebephrenia. Pubescent Insanity).

Insanity of Infancy.—Insanity is very rare in early infancy and it is met with only exceptionally before puberty. When encountered, it is usually observed in children with a very strong hereditary tendency, and it shows itself in them by terrors, nightmares, nocturnal delirium, visual hallucinations, especially by morbid impulses of a more or less dangerous character, and only rarely by a maniacal or melancholic condition.

Insanity of Puberty.—Puberty is a critical period of human life, and many predisposed and nervous children show various disturbances of the emotions and the intellect at this time.

The mental disorders incident to puberty are extremely varied, and it is not possible to include them all under a single head, as has been attempted by the Germans who have described them under the name of hebephrenia.

Sometimes it is a simple depression, more or less acute, with a tendency to solitude, moroseness, excessive timidity, confused bashfulness, vague longings, tears and sadness; sometimes, on the contrary, there is a varying degree of excitement, showing itself in an incessant activity, turbulence, insomnia, continual tricks and annoyances, dissimulations and falsehoods; and in a more advanced stage the depression becomes lypemania or hypochondria having for its subject the novel phenomena that appear in the sexual functions, which surprise, alarm, and torment the patients, especially boys, sometimes to the extent of arousing in them a very marked suicidal tendency. The excitement when it exists may become agitation, the roguishness actual viciousness with pride, presumption, evil tendencies, cruelty, especially to animals, impulses to theft, arson and, still more, to homicide. With these bad tendencies there are also observed occasional acts of extraordinary bravery that arouse the greatest admiration, and are due to no other motive than the desire to do something. Under the influence of this temporary impulse, young men show a disdain for danger, at which they are later themselves astonished.

These, however, are only transitory disturbances,

the mere oscillations of a forming character seeking its equilibrium. Other more serious symptoms may appear and produce an actual condition of mental alienation. These are delusive conceptions which, in these cases, often take on an erotico-mystic or religous type, and reveal themselves by fear of the devil, of hell, of demoniacal possession, of damnation, by bizarre sexual ideas, by platonic and mystic loves for imaginary beauties that often lead to habits of masturbation. The *maladie du doute* may also be observed. Some times there are nocturnal terrors, and nightmares, and even actual hallucinations involving mostly the visual sense.

The insanity of puberty seems to take the depressive rather more than the maniacal form, and it manifests itself by preference, as remarked by Mairet (1889), in melancholic stupor with attacks of agitation. In all cases it localizes itself much more in the moral sphere and in that of action than in the purely intellectual one, that is it shows itself more in morbid acts and impulses than in delusions. The morbid impulsions in pubescent insanity impel the patients to dangerous and criminal acts, and many of the misdemeanors and crimes committed by young persons at this period of their lives, have no other cause than a mental disorder connected with the appearance of puberty.

However certain German authorities consider it, the insanity of puberty is not usually of serious import, and it disappears with the cessation of the crit-

ical period that gave it rise, unless it has its source in a pronounced heredity, in which case it is only the first stage of an intellectual degeneracy or an incurable dementia.

It is hardly necessary to say that the mental disturbances developed under the influence of puberty are manifested much more commonly in young women than in boys. We know, indeed, that nubility in the former is always a perilous period, and that the various stages of sexual life affect the female more profoundly than the male. On the other hand, it appears that hebephrenia is a less serious disorder in the female sex, which is possibly explainable by the fact that when menstruation is once established aud regular, it sets up in the girl a sort of salutary derivation that contributes powerfully to the re-establishment of the mental equilibrium.

Mairet considers choreic insanity as a simple variety of pubescent insanity in which the delirium and the chorea are both syndromes of the same process: puberty. This view is certainly not applicable to all cases; and we will therefore continue, in accordance with most of the authorities, to describe choreic insanity by itself. It would be more correct to refer the insanity of masturbation to the insanity of puberty. According to Spitzka, who has made it a special study (1888), the insanity of masturbation is five times more frequent in males than in females, and occurs ordinarily between the ages of thirteen and twenty. It is manifested physically by

a general exhaustion of the system, with anæmia of the brain, and digestive and circulatory disturbances, and mentally, by obtuseness, alternations of depression and exaltation with a permanent ground work of sadness, that usually passes into profound melancholia, and finally into dementia.

The treatment of the insanity of puberty should be at once prophylactic in predisposed children, moral, hygienic and medicinal. Quietness of mind, the avoidance of religious subjects and of reading matter capable of exciting the imagination, travel, recreation, gymnastics, hydrotherapy, sedatives, and, when required, emmenagogues, sum up the principal resources of treatment in such cases.

§ II. INSANITY OF OLD AGE.

(Senile Insanity).

The insanity of old age, or senile insanity, is that which occurs from advance of years. It recognizes for its main predisposing cause, heredity, especially cerebral heredity; and as its principal exciting causes, alcoholism, syphilis, great excesses, and misfortunes. Fürstner, who has made a special study of the psychic disorders of old age (1888), classes them in three groups: (1) simple senile psychoses; (2) senile psychoses with simple dementia; (3) senile psychoses with cerebral dementia.

The simple senile psychoses are those in which the insanity is not accompanied by intellectual en-

feeblement. It is then a common, more or less acute attack of mania or melancholia. The maniacal form, much the least frequent, is essentially curable; the melancholic often due to a homologous and homochronous heredity (Régis), affects by preference the anxious type, and almost invariably terminates in the chronic form.

The senile psychoses with simple dementia are those in which the insanity is associated with a condition of mental weakness without corresponding somatic lesions. It is a combination of an attack of mania or melancholia with simple dementia, such as has been described in the preceding pages. It is generally met with as a sub-acute melancholia with ideas of persecution. These last are in these cases, necessarily absurd and puerile from the coexisting dementia. The patients almost always think that some one has a design against them, but especially that they are to be robbed; this is their ruling idea. Under the influence of this fear they rise in the night, hide everything they have in places where later they are themselves unable to find them, they barricade themselves in their houses and in their rooms, and go so far, as it were automatically, as to accumulate in their night vessels, their sheets, blankets, and garments.

There may be also hallucinations of sight or hearing, but confused and rudimentary as they always are in demented conditions.

There is very little sleep or none at all; nocturnal

noisiness and excitement are nearly constant in these patients. Their actions all carry the stamp of dementia. They are: absurd and infantile thefts, like those of general paralytics, but even more foolish; sudden and causeless fits of passion, ridiculous and heedless attempts at suicide; there are also especially libidinous actions, obscene exhibitions of themselves in public, attemps at rape, unnatural crimes, all resulting from lack of conscience and absolute loss of the feeling of modesty.

The senile psychoses with cerebral dementia are those in which the insanity is associated, not with simple mental enfeeblement, but with the bodily and mental symptoms of loss of power due to a more or less diffuse lesion of the nervous centres, i. e., what is called organic or apoplectic dementia. This will be again referred to later on when discussing this last, which does not fall in any absolute fashion into the category of senile dementia.

With the exception of the simple insanities, those of the first class, which are curable, the maniacal form in particular, senile insanity is recovered from only exceptionally. It is almost always necessary to have recourse to isolation of the patient in order to protect him from the dangers to which his delirium and his dementia expose him. The treatment, properly speaking, is comprised in the medication for the symptoms. It consists chiefly in intestinal derivation and the re-establishment of sleep by means of the appropriate agents.

§ III. INSANITY OF MENSTRUATION.

(MENSTRUAL INSANITY. CATAMENIAL INSANITY).

In the majority of women, even in the physiological condition, the return of the menses is accompanied on each occasion, with intellectual and moral disturbances, the frequency of which is so great that they have ceased to attract attention. It is usually more or less excitement, a tendency to loquacity, to disputation, to susceptibility, to passion, to caprice; or, on the other hand, a depressed condition with indifference and apathy that is observed.

In certain cases these alterations of character, disposition and desires of women may reach a greater intensity and attain the proportions of insanity. The alienation, in these cases, may take on any form whatever. In general it is a matter of a transient attack of acute melancholia, or more often, mania, lasting only through the period with which it is connected and ceasing with it, essentially ephemeral and consequently susceptible of being classed, strictly speaking, in the transitory and periodic insanities. "In some patients," says M. Ball, "the religious ideas predominate, in others it is demonomania that fills the scene. Lastly, there are women who have, at each appearance of the menses, an attack of nymphomania."

We have had in view, so far, only normal menstruation in the description of these phenomena.

As to the disorders of this function, and notably suppression of the menses or amenorrhœa, and dysmenorrhœa, their action on the mental condition is still more marked and frequent, and quite frequently gives rise to insanity. Esquirol made them out to be one-sixth of all the physical causes of insanity in women. Every one knows of the case cited by that author, of a young girl made insane on account of suppression of the menses, who, on rising one morning threw herself on her mother's neck, crying out that she was cured, her menses flowed freely and reason was immediately re-established. I have many times seen at the hospital St. André at Bordeaux, in the service of Dr. Lande, a young hysterical female who, following suppression of the catamenia, had every month a palpebral hæmatidrosis, and with this an attack of acute mania lasting from two to three days, with daily exacerbations at a fixed hour. In the interval her reason was perfect.

The psychic disorder frequently reveals itself by irresistible impulses, by a tendency, sometimes periodic, to dipsomania, erotism, theft, arson, homicide, and especially to suicide.

On account of all these impulsions that may occur, menstrual insanity raises an important point in legal medicine. We should also never lose sight of this fact while the question arises of the responsibility of a woman guilty of a misdemeanor or crime, or even of any very extraordinary behavior, committed at the time of the catamenia or during the suppression of that function.

In a general way, catamenial insanity is almost always judged by the effects of the return of the menstrual flow, and when that appears without any improvement of the mental condition, incurability is to be feared. In the great majority of cases, the return of the periods is consecutive to mental improvement, leading some physicians to neglect the function and treat only the mental disorder. It is better, however, in principle, to treat the cause, that is, the menstrual disorder. It is rare that its disappearance is not attended with a general check in the disease, and following this a cure.

§ IV. INSANITY OF PREGNANCY, OF PARTURITION, OF THE PUERPERAL CONDITION AND OF LACTATION.

(Puerperal Insanity).

We designate under the name *puerperal insanity*, the insanity connected with the various periods of pregnancy, i. e., gestation, parturition, the puerperal condition and lactation.

Puerperal insanity is not very frequent in comparison with the number of parturient women. Its principal cause is heredity, and it is very often the case that the daughters of insane parents become themselves insane on the occurrence of so important an event as pregnancy. The accessory causes are poverty, debility from loss of blood or anæmia, the mental torment and anguish due to a false step, dif-

ficult labor, suppression of the lochia or the milk, and, finally, the enfeeblement from a prolonged lactation. It is evident that former attacks of insanity, whether connected with pregnancy or not, actively predispose to puerperal insanity. There is a lack of agreement of opinion as to whether or not primiparæ are more exposed than multiparæ, and *vice versa*.

As regards the period in which puerperal insanity appears, some authorities have made two varieties: that occurring before labor (*ante-partum* insanity), and that occurring after labor (*post-partum*). Others, like M. Ball, divide pregnancy into four periods, and, therefore, from this point of view describe four varieties of puerperal insanity.

The clinical form taken by puerperal insanity is always mania or melancholia. Most frequently it is acute; but sometimes it is manifested in a hyperacute form, that is an *acute delirium* in the maniacal form and *stupor* in the melancholic type.

The characters of the mania and melancholia connected with the puerperal state are in all respects the same as those of simple mania and melancholia. Marcé, who made a special study of puerperal insanity, says that it differs in no respect in its symptoms from ordinary mania. "I have proved in another work," says he, "that the characters assigned to it, such as the peculiar appearance, the odor of mice exhaled by the patients, are due solely to the accompanying puerperal state, and the erotic manifestations in this morbid condition are far from having the

value and frequency assigned them by some authorities."

There is no necessity, therefore, of describing puerperal mania and melancholia in detail. It will suffice to point out at each stage of the physiological process the forms of generalized insanity that may occur, and the more or less striking peculiarities they may borrow from the coexistence of this process.

1. PREGNANCY.—A great many women present more or less marked intellectual and moral disturbances during pregnancy without actually becoming insane. It is hardly necessary to mention the longings, the extravagant desires, the depravations of the appetite (pica and malacia), and also sometimes the tendency to theft, which are sometimes observed in the pregnant female.

The insanity of pregnancy, properly so-called, generally makes its appearance during the last three months, and habitually takes the melancholic form, especially the subacute (melancholic depression) or acute form. Sometimes it ends at the time of labor, but more often it continues during the puerperal period.

2. LABOR.—Childbed insanity or that which begins at the moment of labor is rather rare. Apart from heredity, it has for its causes, either a difficult delivery, or the torments of a clandestine birth, or eclamptic complications, and consists in a temporary

transient delirium, generally of the maniacal type, with sudden impulses, and especially with a tendency to infanticide. Some cases have been reported in which each uterine contraction was accompanied, instead of a pain, with a sudden spell of excitement that ceased whenever the pain was over. Such cases are infrequent.

3. Puerperal Condition.—Insanity connected with the puerperal state, or puerperal insanity, properly so-called, is that which appears after delivery and before the return of menstruation, especially about the fifth or sixth day. It is, with the insanity of lactation, the most frequent of all.

It is usually preceded by prodromata, such as irritability, general *malaise*, excessive anxiety, and when the attack occurs it takes, three times out of four, the form of mania, and chiefly the acute type.

It has been claimed that erotic tendencies and obscenity are more marked in puerperal mania than in any other form. We have seen, with Marcé, what should be thought of this peculiarity, which is really only a shade of difference not easily determined.

A symptom that seems more reliable, is the frequency, in puerperal insanity whether of the maniacal or melancholic form, of the perversion of the affective sentiments, and especially the excessive morbid aversion of the patient to her husband and children.

Puerperal melancholia takes also the acute or even the hyperacute, that is, the stuporous form. Apart

from perversion of the affective sentiments and possibly a more decidedly suicidal tendency it has no characters peculiar to itself.

4. Lactation.—Insanity connected with lactation manifests itself in general towards the second or third month of nursing. It has for its chief causes, anæmia, poverty, and above all, the debility due to lactation. It affects by preference, the types of acute or subacute melancholia (melancholic depression).

Prognosis.—In a general way, puerperal insanity is rather curable, especially a first attack, but less so, nevertheless, than simple generalized insanity. That occurring during gestation or during labor is the most curable; that occurring during lactation is, on the other hand, more serious in its prognosis. It may also be said that the maniacal form of puerperal insanity offers the best chances for cure.

There is no form more subject to relapses than puerperal insanity, and a first attack predisposes almost inevitably to a second. Thus there are women who have an attack with each pregnancy, sometimes of the maniacal, sometimes the melancholic form. At each attack the prognosis becomes more grave, and it is rare that after a second or third attack the disease does not pass into the chronic condition.

The treatment is the same as that ordinarily employed in simple mania and melancholia, with such special indications as are required by the condition of the woman, the anæmia, the suppression of the milk, the return of the catamenia, etc., etc.

§ V. INSANITY OF THE MENOPAUSE.

(Climacteric Insanity).

The menopause, so justly called a critical epoch, is a dangerous period for many women to traverse, and is very frequently the occasion of intellectual and moral perturbations, and psychic modifications, which may sometimes go so far as to cause insanity. Nervous women especially, and such as are predisposed to mental disease, incur the danger of losing their reason at this period. It is not an infrequent thing to see those who are thus originally predisposed, but who have been able to keep this tendency latent during all their active life, in spite of all the physical and moral shocks they have endured, become suddenly insane at this time from the sole influence of the physiological suppression of the menses. In others who have already had one or two attacks of insanity, the change of life is the occasion of a new attack or relapse. This possibility is especially to be dreaded for women whose first attacks of insanity were connected with either puberty, menstrual disorders, or pregnancy, in a word, with any one of the great processes of sexual life, the influence of which we are studying. For them, more than others, is the last step of this sexual existence a difficult one.

Like the insanity of puberty and menstrual insanity, the insanity of the menopause does not, to tell the truth, present any special clinical physiognomy, and the symptoms may be infinitely varied; nevertheless, here also it is in the impulsive sphere

that the greatest disturbances make their appearance, and the tendency to dipsomania, to theft, to homicide, to arson, but still more to suicide, forms the prominent feature of this disorder which is, as a rule, melancholic in its type. The delusions often assume the erotic or mystic type or are those of persecution, and they are, in many cases, accompanied with bizarre sexual hallucinations, such as were described in the remarks on these symptoms.

The critical age, which seems to exert so active an influence on the development of insanity, sometimes, in certain more or less chronic cases, plays the part of a crisis. At this time, it may be said, their future is decided for good, when there yet remain any chances of reason being restored; that age once passed they either recover and are thereafter protected from attacks of insanity, or they are sunk irrevocably into incurability and dementia.

Insanity of the change of life is peculiar, so to speak, to the female sex. Nevertheless men appear to be sometimes subject to it, since, according to some authorities, they have also their great climacteric between the ages of fifty and sixty. In them, even more prominently than in women, the symptoms of the disorder consist chiefly in a state of constant dread of some misfortune, the fear of damnation and tendency to suicide, i. e., in melancholia of the anxious type.

Insanity of the menopause is generally curable and its duration is ordinarily limited to that of the

critical period. We can only call to mind exceptional instances where the insanity came on only after the menopause and then manifested itself by periodic attacks occurring at the epochs of the former menstrual periods.

The treatment of climacteric insanity is often very difficult, as there is no absolute line of conduct here to be followed, as in cases where the mental disease is due to amenorrhoea. The chief indication, apart from hygienic and moral treatment which must never be neglected, is to direct the efforts against the nervous disturbances, the vaso-motor disorders and the accompanying anæmia. Tonics, and external modifying agencies (baths, douches, massage, electricity) are the remedies best adapted to this end.

Chapter X.

INSANITY CONNECTED WITH LOCAL VISCERAL DISEASE.

(Sympathetic Insanity).

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§I. INSANITY DUE TO DISEASE OF THE GENITAL AND GENITO-URINARY ORGANS.

A.—Affections of the Uterus and its Appendages.

(*Utero-Ovarian Insanity*).

If the physiological processes that have their point of departure in the generative organs, are often the causes of mental trouble, this is perhaps still more frequently the case with their diseases. On account of the direct connections that unite the sexual to the cerebral life, there is not a single affection of the genito-urinary apparatus that may not in time affect the brain and cause mental disorder.

Thus in the male we often see onanism, seminal losses, and disease of the urethra, especially blennorrhagia and blennorrhœa, affect the mind, depress the spirits, and gradually produce, either hypochondria or neurasthenia, or even a delusional melancholia with suicidal tendency. Nevertheless, mental disorders due to the affections of the sexual organs are comparatively rare in the male, while, on the contrary, they are quite common in the female sex.

The majority of women suffering from organic disease of the uterus, fall gradually, in fact, into depression, moroseness, and hysteria; they change in their characters, and become irritable to excess, sometimes even passionate and violent; occasionally, indeed, they go a degree farther and pass fully into the domain of insanity. According to general opinion of observers the form taken by the mental disease in these cases is most frequently melancholia with a tendency to suicide.

It is in this variety of alienation especially that we find, together with more or less pronounced erotic and mystical notions, those queer hallucinations of the genital sense, in which the patients experience extraordinary sensations of a painfully pleasurable kind, and which give a special character to their delusions. These are the lunatics that make charges of dishonorable liberties attempted, of their having to undergo disgusting tests, that all kinds of objects are introduced into their parts, that they are outraged and made to experience the feelings of coition at night, that they are pregnant and can feel the motion of the infant, that they have animals in their bellies, that they are about to be confined, etc., etc. Some of these also, in order to combat with all their might these imaginary outrages, devise very extraordinary methods of self-protection, they fasten their thighs together at night, they tampon the vulva with old rags or towels, and even introduce foreign substances deeply in the vagina. Sometimes it is their own

account of their sensations that attracts attention to the condition of their organs, and thus reveals the true cause of the mental disorder, by the discovery of some of their existing morbid conditions.

Most uterine affections are capable of engendering mental disease, by sympathy, and it does not appear that out of the whole number, any one has any special influence more than the others in this regard.

Dr. Wiglesworth (1885), who made one hundred and nine autopsies of insane women with particular reference to this point, has obtained the following results: in forty-two the sexual organs were healthy or without any appreciable lesion; in sixty-seven there were found more or less serious alterations. In twenty-two cases the disease seemed to have no particular connection with the insanity. In the other forty-five there was one case of absence of the uterus; four cases of conical cervix with pinhole os; four cases of retroversion; five of retroflexion; and one of retroflexion and retroversion combined; one case of prolapsus; six of increased volume of uterus; six of fibroma; six of chronic peritonitis; one case of hypertrophy with induration of the lips of the cervix; one case of uterine cancer; nine cases of diseased ovaries and tubes. Fibroid tumors and displacements of the womb, together with alterations of the ovaries or their total ablation, seem therefore to be the lesions that have most influence on mental disorders. Simple ulcerations or granulations of the cervix with or without leucorrhœa, however, are sufficient to cause these same disorders.

Very often, and I may say generally, the psychic disorders follow exactly the phases of the utero-ovarian symptoms, increasing with them or, on the other hand, improving and disappearing as the latter improve and disappear. There have even been cases reported of the disappearance of insanity in cases of prolapsus, as soon as the uterus was replaced with a pessary. These facts, which are very curious, establish firmly the relation existing between the mental trouble and the uterine lesion, and the subordination of the course of the former to the processes of the latter.

Nevertheless, this is not always the case, and we may see either the uterine lesion disappear and the mental disorder persist, or rather the intellectual trouble disappearing while the uterine affection is stationary.

It is none the less true that we should never lose sight of the frequency of this sympathetic relation, and should give attention to the condition of the generative organs, not, perhaps as, Azam counsels, in all cases of suicidal melancholia, but at least in such patients as have delusions relating to these organs or the strange sexual hallucinations which have been mentioned in the preceding pages.

B.—Diseases of the Kidneys and Bladder.

(*Brightic Insanity*).

The relations of insanity with kidney disorders have been long since observed, particularly by

Lasègue, Koppen, Raymond, Pierret, and Bouvat. It is, however, of late years that attention has been given to this question by several French physicians who have discussed it in the Société médicale des hôpitaux, and have recognized, with Dieulafoy, a Brightic insanity. Unfortunately there have been confounded, rather carelessly, all the psychopathic conditions susceptible of coexisting with albuminuria, whatever may be their form or origin. A foreign alienist, Madame Alice Bennett, has recently made uræmic poisoning one of the most frequent causes of mental alienation, and as the starting point of nearly all cases of melancholia (American Journal of Insanity, October, 1890). There is in this an evident exaggeration, against which it is important to protest. This is what M. Joffroy has attempted in an interesting clinical lecture which gives correctly, from this point of view, the actual state of our knowledge of the subject. (*Bulletin Médical*, February, 1891).

According to M. Joffroy, a capital distinction must first be made between the nervous accidents of acute delirious uræmia and Brightic or uræmic insanity.

The first of these is an acute and transient delirium, or to express it more correctly, a non-vesanic febrile delirium occurring under the influence of an infectious disorder accompanied by nephritis and fever.

Brightic insanity comprises the cases in which the existing albuminuria is responsible alone for the in-

sanity, and those where, by arousing a vesanic predisposition, it simply brings into activity a latent mental disorder. There are, consequently, two species of albuminuric insanity.

In the first, albuminuria occurs in a person with no antecedents of mental disease, either personal or hereditary, but presenting a neuropathic predisposition. Under its influence the brain suffers in a special way from the uræmic intoxication; nutrition is vitiated and insufficient, and a quiet, mild delirium, very closely allied to dementia, may appear, continue as long as the albuminuria, increase or diminish with it, and even disappear if the patient recovers from the bodily disorder.

In other cases, always appertaining to the same species, vascular lesions occur under the influence of the albuminuria, such as hæmorrhagic or necrobiotic lesions of the brain, and the dementia thus due to a profound organic alteration may still be aggravated with the fluctuations of the albuminuria, but it cannot recover when that disappears.

According to M. Joffroy, there is a true Brightic insanity developed, not because of a vesanic predisposition, but by the long continued albuminuric intoxication disturbing the nutrition of the nervous centres or even producing in them organic lesions. These cases, however, are rare, and the insanity is of an inactive type, dementia predominating.

In the second variety, we see a true insanity supervene in the course of an albuminuria, due mainly to

a hereditary vesanic taint, and only albuminuric in that the kidney disorder is its exciting cause. It is not albuminuric insanity but insanity aroused by albuminuria. It may therefore take very different forms. Some patients have hallucinations of sight and hearing, others ideas of persecution and erotic ideas, or religious delusions; still others are maniacal, melancholic or suffer from *folie du doute*, etc.

The distinction between these various conditions is important in view of the prognosis. In acute delirious uræmia, the mental symptoms generally subside after a little time, and there is no necessity of sequestrating the patient.

In the first variety of Brightic insanity, that which is due directly to the intoxication, we ought not to advise asylum treatment, unless very guardedly; the insanity, not of a dangerous type, following closely the course of the albuminuria, may improve as it improves, and sometimes disappear, in case there are no profound organic cerebral lesions.

In the second variety, that where the albuminuria is only the exciting cause, there is usually no particularly close connection between the evolution of the psychic symptoms and the renal disease. This insanity is, therefore, susceptible to the usual means of treatment, especially isolation.

It goes without saying that in all cases, of whatever kind, milk diet used judiciously, forms an important part of the treatment.

Like renal diseases, disorders of the bladder and

the urinary ducts seem to have a real influence on the development of insanity. It seems established that persons affected with lithiasis and particularly with cystitis and retention of urine, are for the most part melancholic, depressed and hypochondriacal, passive and easily discouraged and sometimes even driven to suicide. It is, in fact, well established that the urinary function is very often the starting point of morbid mental preoccupation, and that chronic lesions of its organs of excretion, frequently engender a more or less profound condition of sadness, which may, after a time, end in insanity properly so called.

§ II. INSANITY CONNECTED WITH DISORDERS OF THE DIGESTIVE TRACTS, WITH DISEASE OF THE LIVER AND WITH INTESTINAL PARASITES.

A.—Diseases of the Digestive Tracts.

Direct relations exist between the mental condition and that of the digestive functions. When the latter are in any way disordered, it is rare, in case the trouble persists, that it is not followed by a more or less profound involvement of the intellect and emotions.

Simple constipation, angina, and gastric uneasiness are enough at times to cause depression, sadness, melancholia with refusal of food, hallucinations of taste, delusions and insanity.

Diseases of the intestines have also a very powerful

action on the development of mental alienation. Esquirol, it is well known, affirmed that melancholia was due to a displacement of the transverse colon. Wichmann, Hesselbach and Greding have also made the same observation. Bayle has also shown in his thesis that enteritis and gastro-enteritis may produce sympathetically cerebral disorders. Lastly Dr. Holthof has shown that duodenal catarrh, especially after it has passed into the chronic condition, gives rise to a marked state of depression in the subjects; but in individuals already predisposed to neuroses, it may become the source of more serious mental disorder. In nearly every case the symptoms are those of hypochondria; at other times it develops into a regular melancholia, with ideas of persecution, of unworthiness, with morbid exaggeration of conscientiousness, etc., etc., or else the patients become unquiet, fretful, quarrelsome and excessively irritable.

Alterations of the peritoneum and its folds, the mesentery and the epiploons, may also give rise to mental troubles.

The majority of the gastro-intestinal affections, innocent as they may be in appearance, are therefore liable to engender mental alienation. But of all those that can thus react on the intelligence, the most important with the exception of cancer which is a generalized disease, is certainly dyspepsia, which takes in this regard the foremost place.

All or nearly all of the dyspeptics present in some degree, either nervous disturbances (gastro-intestinal

neurasthenia), or mental disturbances, such as eccentricities of character, attacks of depression, marked tendency to irritability, and attacks of temper, and a propensity, often irresistible, to suicide and to dipsomania. It is not uncommon to see dyspepsia bring on mental alienation, and it is especially in these cases that the chronic gastric disorders improve with the appearance of the insanity, to reappear when it, in its turn, has passed away.

It should be added, for the sake of completeness, that the dyspeptic troubles, whether they are the actual cause of the insanity, or occur in persons already insane, usually give rise to two mental symptoms that are almost characteristic. These symptoms are: (1) the refusal of food, so intimately connected with dyspepsia, which is not a mere sitiophobia not connected in any degree whatever with gastric disorders. The second symptom consists in the almost constant existence of these disorders of the sensibility which have been called internal hallucinations and illusions, and which lead the patients to believe that their stomachs and abdomens are the seat of extraordinary diseases, that they have been poisoned, that their food smells of phosphorus and arsenic, that they have living animals in their abdomens, that they smell badly, that they are rotten, etc., etc. The usual result of this mental condition is a suicidal tendency, which is, in fact, quite marked in insanity of gastric origin.

The prognosis of the mental disease in all these

cases is entirely dependent on the nature and the severity of the organic disease that gave rise to it. It is therefore only really serious in those which are in their nature but slightly susceptible of cure. The other symptomatic disorders yield readily, and the cases of refusal of food, spoken of above, under the influence of medication, cause the disappearance of the visceral trouble itself.

B.—Diseases of the Liver and Biliary Ducts.

(*Hepatic Insanity*).

Affections of the liver and its annexes play a rather important part in the production of sympathetic insanity; their action has been admitted from all time, and the ancient theory that made the liver the exclusive starting point of melancholia, is, at bottom, only the exaggeration of the actual influence of that organ on the mind. Still in our time some authors, Burrows and Hammond among them, assign to hepatic disorders one of the first places in the development of mental alienation.

Among the affections of the liver that appear to really influence the mental condition, hypertrophy and especially abscess appear in the first rank.

Without going so far as Professor Hammond who attributes nearly all cases of hypochondria and melancholia to abscess of the liver, it ought to be recognized that the affections of this organ may become under certain conditions the starting point of mental

disturbances that usually take the characters of melancholia and hypochondria.

Besides hypertrophy and abscess, the principal lesions of the liver that have been noticed in the insane are tubercles of various sizes disseminated in the parenchyma of the gland, fatty degeneration, hydatid cysts, adhesions to the diaphragm, and finally vicious conformation and abnormal situation of the organ.

The organic affections of the gall-bladder and biliary ducts act probably in the same manner as the lesions of the liver itself. In some cases there have been found obstructions of the duct, in others the gall-bladder was atrophied and filled with a slightly viscous and almost colorless liquid.

Hepatic calculi are extremely common in the insane, especially in melancholiacs and hypochondriacs, and there is no observer who has not found them at the autopsies of these patients, often in considerable number and of a size that surprises one at their slight effect during life.

C.—Helminthiasis (Intestinal Worms).

(*Verminous Insanity*).

Although worms, the presence of which is rather often evidenced by various nervous symptoms, may locate themselves in any portion of the body, the psychic phenomena they produce seem to find their natural place among the sympathetic insanities connected with lesions of the abdominal organs, on

account of the marked predilection of these entozoa for those organs, and also on account of their more decided action on the state of the intelligence when they occupy the intestine. Moreover, the presence of worms in the different portions of the digestive tracts is generally associated with more or less alteration of these parts, which aids in their action on the development of insanity.

It was in the beginning of the present century that certain authors, imbued with the ideas of Pinel on insanity by *consensus*, began to attribute some importance to intestinal worms as a factor in the production of mental disease. Prost, in his "*Coup d'œil physiologique sur la folie*," warmly upheld their importance and, like all advocates of new views, carrying things to extremes, he made insanity depend in the majority of cases on the presence of intestinal parasites. Generalizing on the facts he had observed, and making them serve for the erection of a complete theory, Prost held that very often the humors, and particularly the bile, became altered, and that it was in the bile, thus changed, that the worms originated whose presence ultimately gave rise to the troubles of the intelligence. This subordination of the origin of the parasites to a morbid condition of the abdominal organs, approached closely, as we see, to the theory of the origin of insanity by alterations of the liver or digestive tracts.

Prost's ideas, too exclusive as they were, were not accepted, even in his own times, without some reser-

vations. Since then attention has been repeatedly drawn to the subject; some cases have been published, and it is generally admitted at the present time that intestinal worms may, under certain circumstances, develop insanity by sympathetic reaction.

Dr. Vix, who has made a special study of helminthiasis in the insane, has ascertained that convulsive nervous affections, eclampsia, hysteria, etc., are, of all nervous disorders, the most common with these parasites. When a mental disorder is produced it is generally hypochondria or mania. According to the same authority, certain mental dispositions and impulsions are peculiar to insanity connected with helminthiasis, and these will vary according to the locality of the parasite, the reflex action on the brain changing, in fact, according to the region of the body infested. Thus in the insane who exhibit these psychic peculiarities, eight out of every hundred are troubled, according to Vix, with worms, and among the others we do not find marked animal instincts or the tendency to skatophagy, i. e., eating excrement and filth, which would appear to indicate that these symptoms are more common in mental disease connected with helminthiasis.

Some disturbance of the sensibility is commonly met with in these cases, especially hyperæsthesia, and in some instances various perversions of the gustatory sense. Genital excitement is also frequent, also hemeralopia which seems to be specially connected with the presence of *oxyurus*.

Helminthiasis is also sometimes accompanied with nervous symptoms or such general phenomena as convulsions, pupillary dilatation, palpitations, tinnitus, weakness of the limbs, cachectic pallor, etc. Moreover, (always according to Dr. Vix), it is more frequently followed by insanity in the female than in the male sex. Finally, in the former, trichocephalus is most common, in the latter oxyurus.

Verminous insanity is not commonly obstinate, and yields readily to antihelminthics. Some worms, nevertheless, are very difficult to get rid of, and have, moreover, a tendency to recur, which complicates the prognosis to a certain extent and makes relapses possible.

§III. DISEASES OF THE CIRCULATORY APPARATUS.

A.—Diseases of the Heart.

(*Cardiac Insanity*).

Affections of the heart have, rather frequently, an injurious effect on the mind and are capable of producing various disorders of the ideas and the emotions, from simple change of character and rudimentary morbid conceptions to confirmed insanity.

The so-called cardiac insanity is not, properly speaking, a sympathetic insanity, certainly not if we hold strictly to the signification of the term sympathetic. Nevertheless, since it is hardly possible to point out exactly what cerebral circulatory disorders

are produced in cardiac disease, and since, on the other hand, the disorders of the circulation that are constant as symptoms of the heart lesions are far from causing delusional or vesanic symptoms in all cases, we must recognize that the nervous system is a potent agent, if not the principal one in the production of cardiac insanity, and this permits us to continue to consider this variety of alienation as a sympathetic insanity in the wider sense we have given to the term.

All diseases of the heart may produce mental alienation; but those whose action in this way seems most frequent are mitral and aortic lesions. The lesions of the other cardiac orifices may, nevertheless, have a certain *rôle*, and M. Duplaix has reported in *l'Encéphale* a case of insanity, with agitation, hallucinations of sight and hearing, and ideas of persecution, that was plainly connected with a tricuspid insufficiency.

Cardiac insanity takes on most frequently the melancholic form, at least in case of mitral affections, as, according to certain authors and especially M. d'Astros, who has supported this view, the aortic cases are those of the excited types, and the mitral ones the depressed; so that the former tend rather to mania in all its forms, and the latter to melancholia.

The depression in these patients reaches occasionally the condition of stupor; the tendency to suicide, already noticed by Corvisart, is frequent; there is

finally a marked tendency to impulsive and morbid acts, such, in particular, as fits of passion and violence.

The delusions, which are very variable, have here no special type, but it appears nevertheless that persecutory ideas are specially common in cardiac insanity, or they form frequently the basis of the insanity. As regards hallucinations they are very frequent in this mental condition, and they may, in this case, have some relations as to nature and character, with the organic affection, as, for example, in the patient with heart disease, I have elsewhere referred to, who heard a voice speaking to him in his heart. Deventer (*Centralblatt*, 1888) has also noted the existence in cardiac patients, of auditory hallucinations synchronous with the cardiac beats.

Cardiac insanity is a form with sudden oscillations, intermittent or rather remittent in its conduct and manifestations. The mental disorders are commonly subordinate to the influence of the heart affection. They are most pronounced at the times of exacerbation of the bodily disease. Sometimes, on the other hand, we observe a sort of inverse equilibrium between the somatic cardiac disorder and the intellectual troubles.

Cardiac insanity is serious, because its cause, the heart affection, is permanent and incurable. The attacks of insanity, which, as has been remarked, usually assume the intermittent or remittent type, usually are recovered from, but as a rule they reappear and they are very liable to relapses.

The mental disorders that sometimes accompany the later stages of *asystoly* have not been mentioned. In these cases we do not have a real insanity, but a sort of toxic delirium analogous to that of the last stages of phthisis.

In a recent clinical lecture (*Bulletin Médical*, March, 1891), M. Huchard has shown that true cardiac insanity, which he distinguishes according as it occurs with or without asystoly, is comparatively rare, and that it is of importance not to confound it with certain deliriums that occur in patients with cardiac disease, such as cardio-renal delirium, due at once to asystoly and uræmia, the drug deliriums (digitalis, belladonna, etc.), and the arthritic, alcoholic, hysterical and puerperal deliriums. These various forms have besides a physiognomy of their own that allows them to be recognized with proper attention.

B.—Diseases of the Blood-Vessels.

Diseases of the blood-vessels rarely give rise to insanity properly so-called. We have in these cases more of dyscrasic disorders involving the intelligence, or, more frequently still, as with arterio-sclerosis, direct cerebral lesions giving rise to more or less pronounced symptoms of dementia. Occasionally, however, we meet with a true insanity, made up usually of hypochondriacal ideas, ideas of persecution and accompanied with internal hallucinations. It is in cases of aortic aneurism especially that this is

met with, as has been recently demonstrated by Dr. Mickle (*Brain*, 1889).

§ IV. DISEASES OF THE LUNGS.

Except in tuberculosis, the mental disorders of which are studied in connection with the insanities of the infectious diseases, the local affections of the lungs are only exceptionally accompanied with insanity, and we see in them hardly anything more than transitory attacks of febrile or alcoholic delirium.

Chapter XI.

INSANITIES ASSOCIATED WITH GENERAL DISORDERS.

(Acute and Chronic Infectious Diseases. Diatheses).

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§I. INSANITIES OF THE INFECTIOUS DISEASES.

Infectious diseases may aid in the development of insanity by a triple mechanism recently explained by M. Chardon in an interesting study (*Thèse de Lille*, 1889.) They may act: (1) by the direct action of the microbes, localized in the nervous centres; (2) by the action of products secreted by the microbes; (3) by auto-intoxication by products not duly eliminated by the patient.

Regarding them in their relations with mental alienation, we may divide the infectious diseases into acute and chronic.

Acute Infectious Diseases.

(variola, measles, scarlatina, diphtheria, sweating sickness, erysipelas, cholera, typhoid fever, hydrophobia, influenza).

1.—Variola.

The eruptive fever most frequently complicated with insanity is variola.

The times when this complication appears are by preference, the time of the appearance of the eruption

and that of convalescence. It may nevertheless show itself during incubation and during the stage of suppuration.

The most usual clinical form at the eruptive period is acute mania with violent agitation, incoherence, disordered action, active fever; at convalescence, on the other hand, the melancholic form is more common, generally acute or subacute melancholia, with profound depression and almost always with suicidal tendencies. The frequency of suicide in variolous delirium has been often noted.

The attacks of insanity connected with convalescence from small-pox have some analogies with those we observe at the decline of typhoid fever, and like those, but in a less marked degree, they present, as regards the accompanying delusions and hallucinations, a stamp of absurdity and silliness with mental obtuseness that imprints upon them an altogether characteristic physiognomy. As to those that occur in the course of the disease, it is not rare to see them announced by a decrease of the febrile symptoms which may be mistaken for a real amelioration.

The prognosis of insanity connected with variola is generally good and the attack is commonly recovered from. Nevertheless, there may occur a fatal acute delirium in the eruptive stage, and in the convalescent stage the insanity may assume a chronic type and terminate more or less rapidly in dementia. We need not mention here the influence of variola on the course of a pre-existing insanity; that subject

appertains to general pathology, to that part on incidental affections. We will confine ourselves to the remark that variola, and in a general way all the acute febrile disorders may, in certain cases play the part of *crisis* and bring about the cure or the amelioration of the insanity.

Measles, scarlatina and diphtheria only rarely provoke an attack of insanity and when they are accompanied with intellectual derangement, it is, in the first named, more especially a febrile, and in the last a sort of asphyxic delirium that we encounter. We need only refer also to sweating sickness in which Brouardel has noted the possibility of maniacal or melancholic disorders. (Epidemic of Poitou, 1887).

2.—Erysipelas.

It is well known that erysipelas, especially that of the face and scalp, is almost constantly accompanied with a febrile or, in topers, with an alcoholic delirium In a few rather rare cases it may give rise to an attack of genuine insanity.

As in variola, the attacks of insanity in erysipelas, occur by preference in the acute stage of the disease, nearly always under the form of acute mania or acute delirium; or during convalescence, under the form of melancholia with depression, hebetude, various hallucinations, especially of hearing, ideas of suicide, etc., etc. General paralysis itself appears to be developed in certain cases, after erysipelas of the face.

The only peculiarity to be mentioned in connection with insanity due to erysipelas is that, on account of erysipelas being a disorder likely to recur, an attack of insanity from this cause creates a troublesome precedent that makes us foresee other attacks in case of the recurrence of the erysipelas. There have even been cases reported of mania following facial erysipelas cured by the appearance of a new erysipelatous attack.

3.—Cholera.

The possibility of vesanic complications in cholera, especially at the period of convalescence has been often noted. The more usual clinical forms are: acute mania, with or without exalted delusive ideas, melancholia accompanied with vague ideas of persecution and tendency to suicide, and, lastly, stupor.

Although insanity is a complication of the cholera, it usually recovers; indeed it has been remarked that it habitually occurs only in those cases of cholera which should terminate in recovery.

4.—Typhoid Fever.

The insanity of typhoid fever is the typical insanity of those due to infectious diseases. On account of its importance, its relative frequency, and the number of papers its study has caused to be written, it merits our attention.

First of all we may remark that febrile, non-vesanic delirium is very common in typhoid fever, and is never lacking in severe cases. It is usually

easy to recognize by the febrile characters it presents; nevertheless cases have been reported, and this seems rather peculiar to typhoid fever, in which this delirium becomes systematized and made up entirely, so to speak, of hallucinations, in such a way as to offer some analogies to the delirium of insanity.

The genuine insanity is not altogether rare—43 cases in 2,000 patients (Nasse); 22 cases in 500 (Schlager); 11 cases in 2,000 (Christian)—and, as in most febrile affections, it may supervene either during the course of the disease or during its decline.

Marandon de Montyel in an interesting paper, has made a classification of the deliriums of typhoid fever, which he divides into *pertyphic* deliriums, comprising those of the initial stage, the period of culmination and, that of convalescence, and the *post typhic* deliriums either mediate or immediate. All these divisions, although they have been accepted by some authorities, seem to me unnecessary, and I limit myself to admitting one insanity occurring in the course of the dothienteritis, or a *pertyphic* insanity and one of convalescene or a *post-typhic* insanity.

Pertyphic insanity is rather rare. It consists almost always in an acute or hyperacute mania combined with phenomena of excitement and depression. These attacks, as has been remarked when speaking of the eruptive fevers, may announce themselves by illusive symptoms of improvement. According to

Kræpelin they are followed by death in at least one quarter of the cases.

Post-typhic insanity, or that of convalescence, is more common. The time of its appearance is variable. It may appear either at the decline of the disease, when the febrile movement becomes less intense, or later, during convalescence. It may even show itself after apparent restoration of health and when the patient has been out repeatedly.

The appearance of insanity after typhoid fever does not necessarily indicate that the affection has been very severe or that it has been of the adynamic type; it may occur even after mild cases of short duration. As has been recently said with truth, insanity is more frequent in certain epidemics of typhoid than in others, which fact seems to indicate that, aside from individual predispositions, certain epidemics seem to be specially predisposed to this complication.

The three states of alienation that may occur in the decline of typhoid are: intellectual obtuseness or pseudo-dementia, mania, and melancholia.

Intellectual obtusion is only the morbid exaggeration of the more or less marked and persistent obscuration of the faculties and especially of the memory, that is commonly left behind it by typhoid fever. In this case it presents itself with all the features of dementia, and may extend, in some cases, as far as the complete abolition of the intelligence. This is not, however, a true dementia; it is only a pseudo-dementia, an obscuration of the mind

by excessive debilitation of the brain, since in almost all cases the mental faculties arouse themselves more or less completely to their normal activity, while the alterations of dementia are irreparable.

This intellectual obtusion or pseudo-dementia may alone constitute the whole mental trouble, but it exists even when mania or melancholia follows the fever, and it is the feature that forms one of the principal characteristics of this kind of insanity.

Mania, in typhoid fever, occurs in the acute form and more commonly still in the sub-acute form. The frequency of more or less limited ideas of ambition has been long since observed in these cases.

The special character that gives to this condition and this form of insanity a special physiognomy, is the constantly existing intellectual obtusion. This, indeed, causes a condition of hebetude and mental weakness that imprints on the whole mental disorder, the ideas and acts a stamp of characteristic absurdity and stupidity. This peculiarity, together with what we have said regarding the relative frequency in these cases of ambitious and absurd conceptions, and also the physical disorders, such as muscular weakness, tremor, slowness of speech, which may concurrently exist, may all together occasionally give rise to some difficulties in the diagnosis of this condition from general paralysis.

The most frequent form of insanity in the convalescence from typhoid fever is melancholia. It is commonly characterized by a more or less profound

depression, going in some cases as far as to stupor; by confused hallucinations, especially of hearing; by delusions, chiefly vague ones of persecution or mysticism; and lastly by foolish acts and sometimes a marked tendency to sitiophobia and suicide. As with mania, that which gives it its special note, is the character of dementia that presents itself in all its symptoms and manifestations.

Summing up, the mental disorder of the convalescence from typhoid fever may be described as a constant condition of pseudo-dementia, which forms the basis of the intellectual condition, and upon which sometimes supervene more or less acute attacks of mania or melancholia.

Prognosis.—In spite of the bodily debility that accompanies this condition and in spite of the apparent gravity of the attacks they most generally end in recovery, and it is the rule to see the insanity following typhoid fever disappear. It is only in rare cases that it persists and passes into the chronic condition.

Pathogeny.—While nothing is absolutely certain as regards this, it is probable that the pseudo-dementia and attacks of insanity in the convalescence from typhoid fever are connected with dynamic and nutritive disorders of the nervous substance of the brain.

Diagnosis.—Insanity following typhoid fever is rather readily recognized by the character of de-

mentia it presents, the general obtusion of the whole mental condition of the patient that is its chief characteristic. A correct diagnosis is therefore comparatively easy even in the absence of any full history. An important matter sometimes is to distinguish between the insanity from typhoid and a general paralysis of the maniacal or melancholic type, the more so since general paralysis may follow typhoid fever. The difficulty is sometimes great enough to cause some hesitation. Nevertheless, one can generally rely on the fact that embarrassment of speech and inequality of the pupils are commonly lacking in typhoid fever, and that the delusions are more childish, silly, and limited, and less mobile than they are in general paralysis. As to the delirium that sometimes occurs in the beginning of typhoid fever, it may be mistaken for an attack of insanity, and this error has been committed. It is needful as a general rule to distrust the deliriums that appear suddenly complicating a fever, especially one with an evening exacerbation and a regularly ascending temperature curve, which are usually only febrile deliriums. According to Marandon de Montyel, the rejection with disgust of liquids is the best differential sign of acute delirium from typhoid fever and the beginning of maniacal delirium.

The treatment varies according to the case; the chief indication is to tone up the system of the patient in every way, with bitter tonics, hydrotherapy, exercises, etc.

5.—Hydrophobia.

The mental disorders connected with rabies, described by Brierre de Boismont, have been the subjects of special studies of late years by Pierret, Belous and Chardon.

In the beginning are observed insomnia, a special form of headache (sensation of the head in a vice), nightmare, general excitation of the organism with desire of locomotion, disorders of secretion and of the saliva in particular.

Next appear the phenomena of agitation with hallucinations, illusions, and delirium resembling alcoholism. It is a plainly maniacal condition; the patient breaks and destroys everything, makes gestures and utters cries according to his hallucinations and illusions.

This period of general excitement of the nervous system is followed by a period of depression and paralysis. Then follow the typhoid phenomena and death ends the scene.

Professor Pierret lays much stress upon multiple paralysis, especially those of the jaws and of the pharynx, as characteristics of hydrophobic delirium.

6.—Grippe or Influenza.

The relations of insanity with influenza were but little studied prior to the late *pandemic*, a few authors, such as Rush (1790) and Bonnet, of Bordeaux (1837), have merely noted the possibility of

the appearance of mental alienation in consequence of the grippe.

The epidemic of 1889–90, either because of its assuming a special character, or because the facts were better observed, has been noticeably accompanied by a great number of cases of neuropathic or psychopathic disorders. It seems from the memoirs published on the subject by French and foreign authors, notably by Huchard, Joffroy, Kræpelin, Metz, Bartels, Pick, Mairet, Ladame, etc., that the insanity in influenza behaves exactly like that of typhoid fever. Sometimes it appears with the fever in the beginning, or even before the grippal symptoms; sometimes on the other hand, and this is more common, during convalescence. In the first case we have usually a violent maniacal attack with automatic agitation, ordinarily of short duration. In the second case, and in that form specially studied by Ladame under the name of *post-grippal psychosis*, we have to do with the phenomena of cerebral neurasthenia, characterized by hebetude and torpor, it may be with actual melancholic or hypochondriacal attacks with more or less pronounced mental obtusion.

In almost all cases the effects of the influenza are combined with hereditary predisposition. Nearly always also, the mental disorders, serious as they appear, recover more or less quickly under the influence of a proper, and especially a tonic, medication.

The action of influenza on the insane themselves has been very variable. In some asylums the patients appeared altogether refractory to the epidemic, even when the *personnel* suffered severely; in others they were attacked in great numbers by the disease, without, as a rule, its exerting any action whatever on the pre-existing insanity.

CHRONIC INFECTIOUS DISEASES.

(INTERMITTENT FEVER, TUBERCULOSIS, PELLAGRA, SYPHILIS).

1.—Intermittent Fever.

(*Paludal Insanity.*)

Sydenham was the first to remark the possibility of insanity being due to intermittent fever. Since then, a great number of observers (Sebastian, Baillarger, Billod, Griesinger, Kræpelin, Laveran, Bard, etc)., have taken up the subject, but it is Professor Lemoine who has, of late years, made the most complete study of it. (Lemoine and Chaumier, *Annales Médico-psychologiques*, 1887).

We recognize with him: (1) the psychic disorders of the febrile attack; (2) those of convalescence from intermittent fever; (3) those of chronic malarial poisoning.

1. The attack of intermittent fever, even in its least degree, may, in nervous or debilitated individuals, be accompanied with insanity. It is then a more or less noisy delirium, but essentially fugacious and sometimes periodic. It is in the pernicious

attacks that the psychic troubles are most intense and dominate all other symptoms to the extent of effacing them and making the diagnosis difficult. After two or three febrile attacks accompanied by general excitement, headache, and cries of pain, the insanity makes its outbreak under the form of acute mania. The agitation is excessive, the face flushed, the pupils dilated, the arterial pulse strong, and these symptoms increase in intensity until coma or convulsions appear. Sometimes there is observed a series of alternating phases of excitement and stupor. When a favorable termination is about to occur, general perspiration covers the body, the patient becomes drowsy and goes to sleep; when it is to end unfavorably, coma supervenes and death ensues.

Instead of coming on gradually the insanity may break out suddenly, noisy and violent, especially in the night. Finally, it may be accompanied with convulsions, transitory paralysis, and aphasia, and be followed by a more or less persistent condition of hebetude after recovery.

2. The mental disorders occurring during convalescence from malarial fevers are better known. Sometimes they appear immediately after the disappearance of the malarial attacks or even while they are still occurring, but more often they appear only in that period of indefinite duration in which the anæmic, enfeebled, and anorexic patient is in constant danger of a relapse.

According to Sebastian and Baillarger the most frequently observed form is stupor. It lasts for a variable period but recovery almost always occurs when the patient has regained his strength, has recovered from the anæmia, and has thrown off the fever.

Mania has also been observed at this period, and Kræpelin has met with it alone, often accompanied with exalted delusions. The prognosis here is more sombre, and recovery, when it does occur, is always delayed.

Sebastian finally, has described a form, characterized by attacks of insanity occurring every one or two days, at the same hour and after the same fashion as the preceding fever. The mania especially has a character of periodicity, and is cured by the use of sulphate of quinine. Since Sebastian there have been no cases published in which an intermittent insanity replaced the febrile attacks, but, as M. Lemoine remarks, a certain number of cases in which patients not suffering from malaria, presenting hallucinations or insanity with regular intermissions and cured by quinine, may be regarded as special larvated accidents of a sensorial type.

3. The psychic disorders connected with chronic malarial poisoning have hardly been studied at all except by Kræpelin and Lemoine. The last named has called attention to the cases where mental derangement, although occurring in non-cachectic individuals, is connected with former attacks of intermittent fever by a series of larvated phenom-

ena that leave no doubt of its malarial nature. In some cases, moreover, as if to confirm the diagnosis, the latent febrile symptoms reappear and bring with them an exacerbation of the insanity. The insanity of these patients is variable in type, resistent to quinine, chronic and without any tendency to recovery.

M. Lemoine thinks that malaria, when superimposed on an arthritic basis, may cause in the long run, the lesions and consequently the symptoms of general paralysis, but the observed facts are still too few to permit the settlement of the question.

2.—Tuberculosis.

(*Insanity of Tuberculosis*).

Esquirol and Georget long ago remarked the frequency of chest affections in the insane. Since then, this interesting subject has led to the production of numerous works, notably those of Burrows and Ellis, Friedreich, Schrœder van der Kolk, Skae, Clouston, Biaute, Ball, etc., whence it is clearly shown that lung diseases, and tuberculosis in particular, have a marked influence on disorders of the mind.

In many consumptives the intellect and character are more or less affected. Sometimes we see an abnormal tendency to hypochondria or sadness, or on the other hand, to satisfaction, to optimism, to a feeling of well-being, to *euphoria*, as it has been called. The patients become irritable, mobile to excess, often also they give evidence of a remarkable

genesic excitation. Lastly they may give themselves to the commission of morbid acts and to true impulsions, dipsomania for example.

As regards genuine insanity, it may occur in tuberculous cases in many different ways. Sometimes the tubercular infection manifestly antedates the insanity, which, once established, undergoes the same vicissitudes as the bodily disorder and follows a parallel course. In other cases the appearance of the mental disorder coincides with the amendment or the disappearance of the pulmonary symptoms and then we see the two kinds of phenomena alternate and replace each other. In other cases, finally, the insanity breaks out suddenly without there having been any prior indication to call attention to the state of the lungs, the phthisis having up to the time taken on the latent form it so frequently affects in the insane, and to which the English have given the name "florid consumption" on account of the appearance of the patient and the coloration of the face, which affords a striking contrast with the data obtained by auscultation.

It is necessary to notice, finally, the attacks of more or less transitory insanity or delirium that occur in tuberculous patients in the last stages of their disorder, and of which MM. Peter, Lucien, Leudet, and B. Ball have reported interesting examples. Here, however, as has been shown by these authors, we have to do only with toxic phenomena due to deficient hæmatosis and to saturation of the blood

with carbonic acid, that is to say with a delirium that has nothing really to do with insanity properly so-called.

Whatever its mode of commencement, the attack of insanity connected with phthisis is variable in its character. It is generally admitted, however, that its most frequent form is that of lypemania.

Dr. Clouston pushing his analysis still further, makes out that of all the varieties of alienation, the most frequent one in consumptives is the mania of suspicion (he might better say the melancholia of suspicion). He adds also that this monomania of distrust is more common in tuberculosis of the peritoneum than in that of the lungs. M. Ball has given in his *Leçons* a remarkable example of this kind of insanity.

After this melancholia of suspicion, which often presents itself under the form of lucid or conscious insanity, the most common form in pulmonary phthisis is acute melancholia, especially profound melancholia, accompanied with suicidal tendencies that persist for a long time, and refusal of food. Mania and dementia follow after, and finally at the bottom of the scale comes general paralysis.

Without discussing the question how tuberculosis can of itself create this disorder, it is certain that, whether latent or not, and it is generally latent, the pulmonary affection influences the mental aspect of the general paralysis. Clouston has remarked that all tuberculous paretics began with a melancholic

stage and that it is in these especially that we meet with the extravagant hypochondriacal ideas described by M. Baillarger.

In those cases where the insanity presents itself in its most frequent form, the following is, according to Clouston, as reported by M. Ball, the usual method of its manifestations.

The initial insanity appears as a mania or melancholia. We observe excitement or depression, but the acute stage soon disappears and the patient falls into the chronic condition. He manifests an altogether peculiar mental condition; he is the prey of morbid irritability, a continual bad humor. He is troubled with a mania of suspicion, and presents, so to speak, a false insanity of persecution. There is simultaneously a sort of mental weakness, a profound aversion to work, a horror of movement.

This condition of depression is often traversed by fits of passion. The patient becomes suddenly angered without any reason, but his irritation does not long continue.

Little by little the subject falls into a semi-demented state, interrupted sometimes by periodic remissions, flashes of intelligence now and then appear and it is in these consumptive insane, especially, that we observe that singular return to rationality on the approach of dissolution that has been noticed by so many observers.

The cerebral lesions of phthisical insanity present no striking peculiarities. According to Schüle there

is often a venous hyperæmia of the meninges with anaemia of the underlying cortical substance. The brain is pale and œdematous and shows here and there vascular irregularities. Under the microscope we find fatty infiltration and rupture of some cortical fibres. According to Clouston also, the specific weight of the gray matter is very much diminished.

The insanity of consumptives is, as a rule, incurable. Half of the patients succumb within three years from the commencement of the insanity. Finally, it only very rarely has any favorable reaction upon the phthisis, and in the vast majority of cases, although the symptoms of phthisis remain masked, the bacillary evolution none the less pursues its course.

The treatment is that of pulmonary phthisis. It is needful, however, to keep in mind that the insanity may alternate with the lung symptoms and that the disappearance of the one may cause the others to disappear, which fact renders great caution advisable.

3.—Pellagra.

(*Pellagrous Insanity, Pellagrous General Paralysis*).

Pellagra, as is well known, is a chronic infectious malady, characterized essentially by a squamous erythema, limited to the parts most exposed to light and heat, by a chronic phlegmasia of the digestive tracts, the principal symptom of which is an obstinate diarrhœa, and, lastly, by a more or less grave

lesion of the nervous system, sometimes terminating in mental alienation and paralysis (Henry Gintrac).

We need not here take up the question of etiology that has given rise to so many and so long discussions both in France and Italy. It may only be remarked that atmospheric and geological causes, heredity, and especially the use of maize altered by a parasite called *verderame* or *verdet*, have all in turn been charged with its origination. From all the facts known, we may admit, with Lombroso, that pellagra is the result of a special poisoning of the organism by certain alkaloids of altered maize (*maïsme*).

Pellagrous Insanity.— As far as the mental symptoms are concerned, it is generally recognized that the most frequent form of mental alienation in pellagra, is melancholia. It exists, to a greater or less degree, in most cases. It reveals itself by an inertia, a passiveness, an indifference, a rather marked torpidity; by insomnia, hallucinations, often of a terrifying nature, of sight and also of hearing; by depressive delusions and fixed ideas of despair, fear and anxiety, and in particular so marked a tendency to suicide and to suicide by drowning, that Strambio has described the disorder under the name of *hydromania*. In looking over the records of the countries where pellagra prevails one readily notices how many cases are found drowned each year. This melancholic depression, which in some cases

may attain to stupor, has always a basis of obtusion, of intellectual hebetude, that finally becomes permanent, and gradually terminates in dementia, as the pellagrous cachexia progresses.

Pellagrous General Paralysis.—M. Baillarger and some Italian authors have described a special form of general paralysis, consecutive to the pellagrous cachexia, the dominant mental symptoms of which are dementia and depressive ideas. From the numerous writings and discussions on this point it is tolerably generally agreed to-day that we do not have to do in these cases with a true general paralysis, but rather with a pseudo-general paralysis, with rather infrequent embarrassments of speech; much such as is observed in the course of syphilitic disease, or in certain chronic intoxications such as saturnism or alcoholism (Baillarger, *Annales Méd. psychol.*, 1888).

Pellagra in the Insane.—M. Billod noticed, in 1855, an epidemic of pellagra in the asylums of *Ille-et-Vilaine* and *Maine-et-Loire*, and since then in numerous papers he has maintained the possibility of the development of this disease during the course of mental alienation. It is, however, generally agreed that the erythema and various other troubles that were presented by these insane are a pseudo-pellagra and not a true pellagra.

Pellagrous insanity is one of the most grave varieties, not in itself, but because it is the expression,

in the sphere of the intelligence of a general disease, progressive in its course, and inevitably ending in cachexia and death.

The diagnosis of pellagrous insanity need not be at all doubtful, on account of the other symptoms of the general disorder. It presents no special indications as regards treatment which is that of the pellagra itself.

4.—Syphilis.

(*Syphilitic Insanity, Syphilitic Pseudo-General Paralysis*).

The question of the relations of syphilis and mental alienation includes two factors: (1) syphilis and insanity; (2) syphilis and general paralysis. These two parts of the problem have been long studied abroad; in France only the latter, and that of recent times, has received much attention.

1. *Syphilis and Insanity.*—In a rather large number of syphilitic cases the *morale* is more or less profoundly altered; there are depression, moroseness, hypochondria, melancholic prepossessions, disgust with life, and sometimes even a tendency to suicide. This is what we may call, from its analogy with the rudimentary psychic troubles of certain diatheses, the *mental state in syphilis.*

The insanity of syphilis, as appears from the interesting historical studies of Morel-Lavallée and Bélières and of Parant, has been specially studied during the past twenty years, by J. F. Duncan, Grainger Stewart, Wille, Skae and Clouston, Hayes

Newington, Julius Mickle, Alf. Fournier, Kiernan, Goldsmith, Savage, Wiglesworth, Kinnier, and more recently by the English and American alienists at the Congress of Washington (1887). The predominant opinion is that syphilis may, in certain cases, cause or favor the appearance of insanity but that this insanity thus produced does not present any special characters, that there is no syphilitic insanity properly so called. Generally, moreover, syphilis does not act alone in these cases, and there is almost always hereditary predisposition and also other occasional causes.

Insanity may appear either in the first stages of syphilis or by preference during the secondary or tertiary stages.

That occurring at the period of infection is very rare. Goldsmith and Savage, who have reported a few cases, attribute it rather to the moral influence than to the specific effect of the disease.

The insanity of the secondary stage is more common. It appears especially with the accidents accompanied by fever, principally at the time of the cutaneous eruptions. It is then an acute or subacute attack of mania or melancholia, generally of short duration and quickly yielding to specific treatment.

Its etiology may be attributed to multiple causes, cachectic condition, mercurialization, poisoning, hyperthermy, etc.

The insanity of the tertiary stage, or late insanity of syphilis has been elucidated by Professor Fournier

under the name of the mental type of cerebral syphilis. It is the form most frequently met with.

It ordinarily consists in a more or less acutely melancholic state with various delusions, with predominating hypochondriacal ideas, notions of persecution and poisoning, confused hallucinations of taste, smell, and hearing, refusal of food, and tendency to suicide. This is the depressive form of Fournier. At other times (expansive form) it consists in a maniacal condition, ranging from simple cerebral excitement to acute mania with automatic agitation, incoherence, and violence. There is joined to the vesanic condition nearly always a mental torpor and obtusion of the faculties, that imprints a characteristic stamp of hebetude on the manifestations of the insanity, whatever its form. Often, indeed, the mental disorder is limited almost solely to this obtusion characterized by a sort of external stupidity with apparent loss of ideas, recollections and sentiments, and which deserves, from its importance and frequency, to constitute a third form of mental syphilis under the name of the pseudo-demented or torpid form.

The insanity of tertiary syphilis is usually due to the action on the brain of more or less circumscribed specific lesions, such as gummata, arteritis, meningo-encephalitis, etc. Nevertheless, and Mickle lays stress on this point, it may develop without any alteration in the nerve centres and when only the other organs are seriously affected by syphilis.

In the great majority of cases the late insanity of syphilis is recovered from, but there is often left a more or less marked degree of mental weakness.

The diagnosis, difficult when the external manifestations of syphilis are lacking, must be made from the antecedents which must be sought for with the utmost care. In dubious cases resort should be had to specific treatment, which is sometimes a veritable touchstone. That is to say, the insanity of tertiary syphilis, in spite of its apparent gravity, is very amenable to specific treatment which should in the main, consists of repeated mercurial frictions and large doses of the iodides.

2. *Syphilis and General Paralysis.*—Here we encounter the most important part of the question of the relations of syphilis and mental alienation. Two points require consideration: (1) Is syphilis a cause of general paralysis? (2) Does syphilis give rise to cerebral conditions resembling general paralysis but not identical with it, in other words, does it produce a pseudo-general paralysis?

The first of these may be left for the present as it can be better discussed in connection with the causes of general paralysis, and we will confine ourselves to saying that, in spite of the persistence of a certain amount of difference of opinion as to this point, syphilis tends, at the present time, to take a more and more important place in the etiology of general paralysis.

Syphilitic Pseudo-General Paralysis.—If there is yet far from being general accord as to the part that syphilis plays as regards genuine general paralysis, there is nearly a unanimity in the admission that it may produce morbid conditions closely resembling that disorder. Even those who, like M. Magnan, reject the theory of pseudo-general paralysis, recognize fully that certain infections, such as syphilis, or certain intoxications, such as alcoholism, are capable of producing symptom complexes more or less similar to that of the malady of Bayle, but that that is no good reason they claim for the creation of the term "pseudo-general paralysis." It is the word, therefore, rather than the thing that is objected to, and as the term is convenient and has already passed into current scientific language, it seems worth while to retain it.

The expression "syphilitic pseudo-general paralysis" was proposed in 1879 by Professor Fournier, but the morbid entity had been previously known. Already in 1862 Zambaco remarked that "syphilis of the brain may cause a general paralysis of movement with also mental alienation, the paralysis resembling and liable to be mistaken for paralytic insanity." Later, in 1873, Lancereaux said in his turn: "Certain syphilitic lesions of the brain may give rise to a symptomatic total having a great resemblance to the morbid conditions known under the names of general paralysis and paralytic dementia." Finally in 1877, Julius Mickle, in an important article entitled

"Syphilis and Insanity," affirmed that cerebral syphilis and general paralysis are two distinct disorders, as is proven by pathological anatomy, but that the difference is still more important in a clinical point of view. He described, in particular, as distinctive features of cerebral syphilis in its mental forms: the habitual existence of hypochondriacal ideas in the beginning and the rarity of exalted delusions; less pronounced dementia; absence of labial and facial tremor, and slight degree of its appearance in the tongue when it existed; more paralytic than ataxic character of the embarrassment of speech; obstinacy of nocturnal headache; frequency of ocular paralysis with the inequality of the pupils (double optic neuritis, atrophy of papillæ, choroiditis, blindness, strabismus, ptosis) and also of unilateral or localized paresis; physical cachexia often very marked; irregularity of evolution. In his interesting Treatise on General Paralysis of the Insane, (2d edition, London, 1886), Mickle reproduced and developed the characters of the differential diagnosis.

It was, however, the distinguished professor of the Saint Louis who, in elucidating syphilitic pseudo-general paralysis and in seeking to differentiate it from true general paralysis, has called attention to this question. According to him the principal points of difference are the following: nearly always, if not invariably, the delirium in syphilis is absolutely free from the ambitious wanderings proper to general paralysis; tremor is less common, especially of the

tongue and upper lip, and is also less delicate; the motor disorders of a paralytic nature (hemiplegia, monoplegia, facial hemiplegia, ocular paralysis) are more frequent and more marked; the apoplectic strokes and sudden paralyses, attesting a localized lesion, often commence the trouble, while contrary to the rule in general paralysis, the mental troubles only appear later; the alteration of the general condition, sometimes very precocious, with emaciation, cachexia, peculiar facies (syphilitic appearance), is more special to pseudo-general paralysis; the latter, moreover, has a less regular and methodic evolution; its progress is irregular; its symptomatic manifestations and their succession are more variable; it is impossible to determine its duration even approximately; finally, its cure is not usual or frequent, but is possible.*

The anatomical lesions are also different in the two disorders, and their difference consists especially in the fact that in syphilitic pseudo-general paralysis, the alterations, instead of predominating in the gray substance, occupy essentially the meninges which become adherent, through adhesive inflammation, to the brain (meningo-cerebral symphysis, hyperplasic meningitis, meningeal sclerosis).

Since then other authors have insisted on the

*In a more recent paper (*Ann. de Psychiatrie et d'Hypnologie*, 1893), Fournier apparently abandons his old views as to pseudo-general paralysis. He says, in effect, that what he used to call syphilitic pseudo-paresis he now considers more correctly, at least in most cases, as genuine paretic dementia.—TRANSLATOR.

differential diagnosis of general paralysis and the syphilitic pseudo-paralysis, notably Savage and Hurd (Congress in Washington, 1887) and Motet (in Morel-Lavallée et Bélières 1889). They have only confirmed the distinctive characters indicated, and notably the irregularity of its course and the possible curability of syphilitic paralysis.

It follows from these data that the majority of authorities admit under one form or another, a specific pseudo-general paralysis, separated from true general paralysis especially by clinical differences, which can be summed up as follows: dementia less pronounced; habitual melancholic delirium; delusions of grandeur less frequent, more coherent; less embarrassment of speech, rather paralytic than ataxic; tremor of lip and tongue often absent; motor disturbance of paralytic order more frequent; course more irregular; duration longer; recovery possible. If we except the particular features relative to the course of the disease, its duration and termination, which are pathognomonic, we do not believe that there exist any very evident differences between the two conditions as regards morbid phenomena. In any case, the differences are neither constant nor important enough to legitimize such a purely symptomatic differential diagnosis as has been attempted, and in this matter we agree with the lamented A. Foville, who thought that the term syphilitic pseudo-general paralysis should be reserved for cases where different lesions have given rise to symptoms like

true paresis. To be able to say "pseudo-general paralysis" there ought in fact to be similar symptoms, at least the essential ones should be the same; and lacking this the term pseudo-paralysis has no further *raison d'être.*

Without troubling one's self with more or less problematical shades of difference between the symptoms of the two disorders, the designation syphilitic pseudo-general paralysis may therefore be reserved for those specific cerebropathies, which, while clinically similar to general paralysis, differ absolutely from it as regards their course and prognosis, and consequently in their lesions. True paresis has a progressive course, a fatal prognosis, and incurable lesions. The pseudo-paresis, whether it be infectious as when from syphilis, or toxic as in alcoholism, has a regressive course, a relatively favorable prognosis, and curable lesions. Whenever this triple condition of regressive course, favorable prognosis, and curable lesions is realized in a morbid condition similar in symptoms to general paralysis, we may apply to it the name of pseudo-paresis. It is thus we understand, for ourselves, the pseudo-general paralysis in general and that from syphilis in particular. Although the term pseudo-general paralysis itself is unacceptable, nothing is more easy than to consider these conditions as general paralysis, but as special forms to which may be applied the adjective *regressive*, in opposition to genuine general paralysis which is essentially progressive.

However it may be considered, syphilitic pseudo-general paralysis may present itself under any form, demented, depressive or expansive. The characteristic peculiarity, whatever may be their form, is that the symptoms rapidly attain their greatest intensity, and that sometimes the patients are demented and filthy from the very beginning. Then, after a certain time, especially if under specific treatment, the symptoms are observed to improve by degrees, and there occurs an evident amelioration or even a genuine recovery takes place. When we see, therefore, in a syphilitic subject with or without a prodromic apoplectic attack, a very rapidly appearing and profound dementia with paresis, accompanied or not by delusions, we should be on our guard for a syphilitic pseudo-paresis, and institute at once an appropriate course of treatment which will often be successful. As to the lesions of syphilitic pseudo-paresis, they cannot always be determined on account of the relative curability of the disorder, but from this fact that they are not irremediable, we may assume that they are usually neoplasms of rapid evolution, acting by compression on the mass of the brain.

§ II. DIATHESES.

(Diathetic Insanities).

The scientific conception of the word *diathesis* has been considerably modified of late years, and its signification has been made more precise at the same

time that it has been limited under the influence of some notable memoirs, in the first rank of which we may place those of M. Ch. Bouchard.

Bouchard defines *diathesis* as: "a permanent disturbance of the nutritional changes that prepares, provokes, and maintains various diseases as to their symptomatic forms, their anatomical locations, and their pathological processes. The common bond of these different disorders, but of the same family, the common cause that engenders and associates them, is the general disturbance of nutrition, it is the diathesis characterized by obstructed nutrition. A diathesis is a morbid temperament."

I will speak here only of the intellectual disorders connected with arthritism in general and with its principal manifestations (rheumatism, gout, diabetes), and those rarer ones associated with cancer. I have used to advantage in the preparation of this part of the chapter the masterly article of Professors Lemoine and Huyghes "*l'Arthritisme dans ses rapports avec le Nervosisme.*" (*Gaz. Méd. de Paris*, February, March and April, 1891), and also the yet unpublished memoir of MM. Mabille and Lallement on "*Les Folies diathésiques*," recently crowned by the Academy of Medicine, and which, thanks to the kindness of the authors, I have been able to consult.

Arthritism.

Arthritism is a general vice of the organism characterized by retardation of the nutrition (Bouchard).

"It is made up of a host of manifestations that all appertain to an arthritico-nervous cycle in which we find, side by side, migraine, epilepsy, gout, hysteria, rheumatism, diabetes, etc. It also includes precocious atheromasia, and the arterites with angina pectoris, all due to inflammations of special characters and locations." (Pierret).

Arthritism is especially characterized by a tendency to congestions (*diathèse congestif* of Cazalis and Sénac). By reason of these frequent congestions or on account of some yet unknown general cause, the general nutrition is profoundly altered. The organic combustions are imperfect, whence the passage frequently into the blood of acid substances, such as uric acid in gout, lactic acid in rheumatism, which act on the economy as toxic foreign bodies.

Thus is brought about in the end a sclerotic process, first vascular, then parenchymatous, acting on this or that organ according to its degree of resistance.

On the other hand arthritic subjects are very often dyspeptic; many of them have dilatations of the stomach and disorder of the intestinal functions. This is a source of toxic action, by way of auto-intoxication, to which should be added that resulting from the non-retention in the sclerosed liver, of certain physiological poisons.

It is in the frequency of the congestive rushes of blood to the head and in the intensity of this double auto-intoxication that the origin of the nervous

troubles so common in the subjects of arthritis is to be sought.

I will say a word first on the mental condition in arthritism in general, and then on the special intellectual disorders of rheumatism, gout, and diabetes.

1.—Arthritism in General.

Arthritic subjects most frequently present a special character. According to M. Lemoine, that which predominates in them is a restlessness that shows itself by mobility, desire to move or change places, a great psychic sensibility with indecision, anxiety and sadness, a tendency to hypochondria that may show itself here either under the nosophobic form (worry as to health, imaginary ailments), or in the so-called *moral* form (discouragement, pessimism, lack of object in life, etc.)

Together with these, so to speak, distinctive marks of the arthritic character, should be noted the mental instability, the excessive action of objects or circumstances on the humor of the moment, finally also the modifications of the mental state under the influence of the times, the temperature, the seasons, etc.

Arthritic patients are sometimes subject to illusions, generally visual, consisting in the transformation of shadows into animated and moving objects, such as mice, cats, dogs, etc. These fugitive and temporary illusions, seem to have relation with the disorders of the cerebral circulation and coincide with the fits of

hypochondria. M. Lemoine compares them to the ocular symptoms of migraine (scintillant scotomata, hemiopia, muscæ volitantes), with this difference that the latter are purely sensorial phenomena and not psycho-sensorial.

The need of air and space felt by these patients produces in them the sense of oppression and want of breath under certain circumstances, such for example as being in a church, in halls, in closed chambers, in crowds, in the dark, in water, etc. This anxiety, at once bodily and mental, reaches in certain cases the proportions of claustrophobia.

The sleep in these patients is usually unquiet, peopled with unpleasant dreams, making a strong impression and vividly remembered, sometimes repeated more or less periodically, and having for their starting point organic sensations. Or again there is only a semi-slumber with vague apprehensions, startings, cramps, involuntary contractures. At certain times actual attacks of insomnia appear.

The mental troubles of arthritic subjects, whatever they may be, are essentially mobile and paroxystic and subject to the fluctuations of the bodily condition. They may be aggravated, or on the other hand relieved, and even made to disappear under the influence of various derivations, such as hæmorrhoidal or menstrual flux, attacks of diarrhœa, polyuria, glycosuria, hyperhydrosis, attacks of migraine or asthma, eruptions of cutaneous exanthemata or articular fluxions, etc.

There is often observed a very well-marked equilibrium between the psychic accidents and the other diathetic manifestations, and this law applies not only to the simple modifications of the mental and moral condition but also, and particularly to the more serious neurotic or vesanic accidents, that have heretofore been called for this reason herpetic, dartrous, migrainous, hæmorrhoidal, asthmatic, etc., insanities.

Among the neuroses related to arthritism one of the most frequent is undeniably neurasthenia. Some authorities, such as Axenfeld and Huchard, consider this affection as developing itself by preference on an arthritic basis, and M. Lemoine goes still farther and does not hesitate to declare that, in most cases, neurasthenia is an arthritic neurosis. This is also the opinion of M. Bordaries (Thès. de Bordeaux, 1890). This pathogenic conception seems the more probable, since the arthritic subject is, as we have seen, before all unquiet and anxious, so that he bears with him in the germinal condition, in a mental point of view, the elements of neurasthenic emotivity.

The symptoms and varieties of neurasthenia, to which a special chapter has already been devoted, need not be described again here. It may merely be stated that in arthritis, the neurosis is observed in all its forms, visceral or cerebral, and that generally it appears in its simple form and at every stage, without any complication of degeneracy.

Hysteria (Huchard, Charcot), chorea (rheumatis-

mal chorea), epilepsy (B. Teissier), angina pectoris (Landouzy), paralysis agitans (Pierret, Vaisselle), may likewise have arthritism for their originating cause.

The same is true of insanity, properly speaking. We have generally in this event, as has been shown by Rouillard, Mabille and Lallement, Lemoine and Huyghes, intermittent and sometimes periodic attacks of melancholia, especially melancholia with consciousness, characterized by physical and mental torpor, inquietude, fixed ideas of hypochondria and discouragement, tendency to suicide and gastro-intestinal disorders, together with more or less pronounced stigmata of neurasthenia (cephalalgia, rachialgia, weakness of the limbs, genital impotence, spells of obsession, local perspirations, etc., etc.), which frequently give to the disorder the aspect of a neurosis rather than a vesania. We may also encounter, I believe, maniacal excitation or double form insanity. These outbreaks of insanity are accompanied by local congestive attacks, or, on the other hand, alternate with them. Mabille and Lallement lay much stress on the intermittent and periodic character of the mental disturbances in arthritism, which are, according to them, characteristic signs, to the extent that they advise the search for the existence of the diathesis in the ancestry and in the individual antecedents of every case of insanity and in melancholia occurring in attacks in particular. The memoirs of MM. Mabille and Lallement seem

to demonstrate, moreover, and this is a point of much interest, that the attacks of insanity in arthritic cases coincide with the chemical changes of the organism, notably with hypoazoturia, hypophosphaturia, oxaluria, with marked variations in the amount of urea, and particularly with actual discharges of uric acid which generally announce the end of the attack. The experiments of the same authors on the comparative toxicity of the urine during the attack and in the intervals, have broached the investigation but have not given any positive results. They show nevertheless that at certain times this toxicity falls below the normal which seems to indicate that there is at such periods a retention of toxic products in the organism.

As to general paralysis, it seems to have direct relations with arthritism. Many authorities have already pointed out the frequency of heredity of congestive tendencies in chronic meningo-encephalitis (Lunier, Doutrebente, Baillarger, Ball and Régis, etc.), and others have called attention to the existence in paretics of some of the stigmata of arthritism such as hemorrhoids, migraine, exanthemata, diabetes, articular inflammations, local sweats, etc. (Charcot, Charpentier, Lemoine). I have myself described a curious case of retraction of the palmar aponeurosis (Dupuytren's disease) in a general paralytic suffering from hereditary arthritis.

There are evidently, therefore, frequent relations between arthritism and progressive general paral-

ysis. The nature of these relations is yet far from clear, and we can only notice as to this point the opinion of M. Lemoine, according to which arthritism is the predisposing cause of paresis, for which it prepares the way, by its repeated congestions and its over-production of the products of disassimilation, for its later development by an exciting cause, such as intoxication (alcoholism, saturnism) or infection (syphilis, malaria).

The diagnosis of the psychic disorders connected with arthritism generally presents no difficulties. We should remember merely that in the majority of cases of emotional neurasthenia and of intermittent insanity, especially of reasoning melancholia, we should suspect this diathesis and look up the family history and the stigmata of the patient without neglecting the very valuable data furnished by the full and frequent analysis of the urine.

The prognosis of alienation of arthritic origin, excepting always general paralysis, is not grave, properly speaking, and the recovery is the rule. We ought not, however, to forget that the characteristic of the diathetic manifestations, mental or physical, is intermittence, and that we find ourselves often in the presence of an apparently curable insanity but one that is really hopeless on account of the inevitable return of the attacks.

The treatment should be addressed first of all to the diathesis. The general condition of the patient and his organic functions, especially the gastro-in-

testinal and hepatic and circulatory functions; the composition of the blood and perspiration, and more especially of the urine; the appearance or disappearance of habitual hæmorrhages (hæmorrhoids), of exanthemata, of asthmatic attacks, and of migraine, all form so many precious indications for the treatment. I have many times, since the pathogeny of the arthritic psychosis has been determined, been able to rapidly and appreciably ameliorate their symptoms by the use of large doses of the alkalines, salicylates and lithates, antiseptics, repeated purgations, lavage of the stomach, etc., and at the present time I am attempting, in an obstinate and hereditary case of arthritism, to break up the periodicity, heretofore regular, of attacks of mania followed by depression, i.e., a biennial attack of double form insanity, by a preventive anti-arthritic treatment.

2.—Rheumatism.

(*Rheumatismal Insanity*).

It is a well known fact that articular rheumatism, in its acute manifestations, may give rise to meningitic or apoplectic complications that have received the name of cerebral rheumatism. These accidents may, in their turn, be accompanied by delirious disturbances, showing themselves usually in the acute or hyperacute form, with incoherence, loquacity, great excitement, etc. This, however, is not, properly speaking, a vesania; it is only a febrile delirium pushed to an excessive degree.

The vesanic disorders of rheumatism, those that form what we may call rheumatismal insanity, are of two orders. They may occur in chronic rheumatism, independently of the acute attacks of the disease; or they may be intimately connected with these latter.

First described by Leuret in 1845, they have since then been the subject of special studies by Mesnet, Griesinger, Morel, Fleming, Fraser, Simson, Simon, Maréchal, Ball and Faure, etc.

The mental troubles allied to *chronic* rheumatism, consisting usually in modifications of character, fall into the class already described under the name of the mental state of arthritism. There is therefore no necessity of redescribing them here.

The true rheumatismal insanity is that occurring in connection with the acute attacks of the disease. Its outbreak generally occurs during convalescence; sometimes also it occurs during the attack itself, and in this case it commonly replaces the articular symptoms which may re-appear again at its disappearance. Almost always it takes on the melancholic form, especially when it occurs during convalescence. Only when its onset is during the attack itself does it appear under the form of acute mania.

All varieties of melancholia may be met with in rheumatism, from simple melancholic depression to complete stupor. Commonly there is a more or less pronounced torpor, with characteristic delusions and hallucinations. The patients have terrific visions;

they see everything in flames (Mesnet); they are pursued by ferocious beasts (Vaillard); they see worms crawling on their beds (Burrows); they think themselves to be dead. The less frequent auditory hallucinations are of the same nature and usually consist in curses and insults. There is generally also sitiophobia, tendency to suicide, and sometimes sudden and violent impulsions. This state is therefore, as we see, not without analogy with alcoholic insanity, which fact seems to support the newer theory that makes rheumatismal manifestations the result of a veritable auto-intoxication.

Whatever may be the form of the insanity, the basis of the mental condition is often constituted by a greater or less degree of intellectual obtusion, and occasionally even by a weakening of the faculties that may become permanent.

Attacks of insanity in rheumatism may be accompanied with choreiform movements, and frequently coexist with cardiac or pericardial disorders.

Finally they may alternate, once or repeatedly, with the articular attacks, appearing when the latter disappear, and *vice versa*.

Prognosis.—In the majority of cases, about three times in five, recovery takes place. Nevertheless it is rarely complete, as there very commonly remains a certain obnubilation of the intelligence, and sometimes even decided mental weakness.

Relapses are common and an attack of insanity in

the course of an attack of rheumatism predisposes to others under similar conditions.

Death rarely occurs and is hardly ever due to the insanity, but rather to the rheumatism or its complications or the general condition accompanying it.

Like simple mania and melancholia, rheumatismal insanity is not attended with regular and invariable cerebral lesions; generally no special lesion is discovered and only the usual alterations of generalized acute insanity are met with.

The treatment offers no special indications, except perhaps that in many cases there may be some advantage in reviving the articular inflammation, the return of which occasionally suffices to cause the disappearance of the mental symptoms.

3.—Gout.

(*Podagrous Insanity*).

A large number of authors, such as Sydenham, Todd, Garrod, Gairdner, Lorry, Clouston, Besnier, Lécorché, Sénac, Ball, Bouchard, Charcot, etc., have remarked and described the mental disorders that may supervene in cases of gout. These are the same as those already indicated apropos to the mental states and neurosis of arthritism. The insanity of gout, properly so called, is rather rare and has been little discussed up to the present time.

The greater part of the cases, carefully collected by MM. Mabille and Lallement, belong to the class

of attacks of insanity occurring during the gout or, on the other hand, alternating with its manifestations.

When insanity appears during a gouty attack it is nearly always in the form of acute mania. When, on the contrary, the insanity alternates with the diathetic symptoms, it usually takes the melancholic form, with mental and physical torpor, depression, hebetude, hypochondriacal delusions, and suicidal tendency. It is in such cases that we see a more or less periodic equilibrium produced between the vesanic and the podagrous manifestations, the dermatoses, attacks of asthma, etc.

4.—Diabetes.

(*Diabetic Insanity*).

The psychic disorders of diabetes have been especially elucidated by Marchal de Calvi, Legrand du Saulle, de Santos, Cotard, Lécorché, Fassy, Mabille and Lallement, etc. They are almost always limited to modifications, more or less profound, of the intelligence and feelings, and only seldom reach the condition of confirmed insanity.

The mental state of diabetics reveals itself in general by hypochondria, torpor, or sometimes invincible somnolence, fears of ruin or misfortune, motiveless prepossessions, and tendency to suicide. The hypochondria here necessarily assumes a peculiar character; it has for its object the presence of

sugar in the urine, and impels the patient to examine it, to taste it, to multiply analyses, and to discuss the proportion of glucose and the make-up of the dietary regimen to the exclusion of all other subjects. It is to be remarked that this hypochondria is in direct ratio with the amount of sugar excreted, as it improves as the sugar decreases. Then the patients again become gay and lively, confident, less solicitous about themselves and more open to outside impressions. The fears of ruin have the effect of rendering the patients miserly, parsimonious to excess, possessed by the notion of inevitable failure, and by the desire for death which alone can save them from dishonor. The torpor is characterized by a mental weariness, a fear of mental effort, "the loss of appetite for thought "(Lasègue). A characteristic feature of the mental condition of diabetics is the concordance of the changes of the mental condition with those of the sugar in the organism, and, the so to speak, barometric influence of the composition of the urine on the mental dispositions and emotions.

Insanity, properly so-called, is rare, as was said, in diabetes. When it occurs it is habitually in the form of melancholia, remittent or intermittent.

In general, the psychic disturbances of diabetes appear in the beginning of the disorder. Sometimes, nevertheless, they never show themselves in the later stages. In some cases they precede the glucosuria by a longer or shorter period and they may then be aggravated by its appearance, or, on the other hand,

as in the case reported by Cotard, they may disappear when it manifests itself.

5.—Cancer.

(*Cancerous Insanity*).

It is known that cancer has affinities that tend to become more and more well established, with arthritism. Bazin, and, more recently, Professor Verneuil have made themselves the defenders of this opinion. Guislain, Decorse, Sauze and Aubanel, Auzouy, Dagonet, Griesinger, Trousseau, Geoffroy and Berthier have demonstrated that cases of insanity connected with a cancerous affection are rather rare, if we except cancers of the brain, which operate by a different mechanism, as a local affection and not so much as a diathesis.

The forms of cancer that most influence the development of insanity are cancer of the uterus and cancer of the stomach. It is an indubitable fact that it is the cancer which in the majority of the patients causes change of character, irritability, depression, discouragement, and occasionally also ideas of suicide. It is only in predisposed individuals that an actual insanity supervenes.

The insanity connected with cancer is nearly always a melancholia with hallucinations and hypochondriacal ideas or delusions of persecution. As in most of the insanities connected with visceral disorders having painful and morbid sensations, it is notable for its delusive interpretations of actual sen-

sations that we call internal illusions. The female patients claim that they are pregnant or have been violated; they have frogs or serpents in their abdomens, etc, etc.

Aside from this peculiarity, insanity connected with cancer has no characteristic symptoms deserving of notice.

Its diagnosis may often present some difficulties as it resembles in all points true melancholia, and the cancer often remains latent like many other organic affections in the insane.

As regards prognosis, it is serious, as the melancholic attack is never really acute; it is a sub-acute type, or, rather, an attack of delusional melancholic of slow and progressive course, which may terminate in dementia, in case death does not supervene from the progress of the cancerous cachexia.

Chapter XIII.

INSANITIES ASSOCIATED WITH DISEASES OF THE NERVOUS SYSTEM.

(Diseases of the Brain. Diseases of the Spinal Cord. Neuroses).

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§ I. INSANITIES CONNECTED WITH DISEASES OF THE BRAIN.

(General Paralysis. Apopleptic Dementia).

General Paralysis of the Insane.

Definition.—General paralysis *is a cerebral disorder*, sometimes *cerebro-spinal* (diffuse, chronic, interstitial, meningo-myelo-encephalitis) *essentially characterized by progressive symptoms of dementia and paralysis* (paralytic dementia) *with which are frequently associated various accessory symptoms, and especially an insanity of the maniacal, melancholic, or circular type* (paralytic insanity).

Historical.—The discovery of general paralysis, of which Baillarger was able to say with reason that it was the greatest step in advance that is recorded in the history of mental disease, dates back not more than sixty years, although attempts have been made to show that it was earlier recognized,

and more particularly that Haslam and Perfect had reported cases at the close of the last century.

Esquirol inaugurated the movement by noticing, in a general way, the extreme gravity of those cases in which the dementia was complicated with paralysis, and the evil significance that should be attributed to embarrassment of articulation as an element of prognosis.

It is to his students, however, that was reserved the honor of actually bringing to light the disease. Georget described it in 1820 under the name of chronic muscular paralysis; Delaye, in 1824 under that of incomplete general paralysis, which it has since retained; Calmeil finally, in 1826, under that of paralysis observed in the insane. All of these regarded the malady as a special form of paralysis superimposed upon the insanity, that is, as the complication of an already existing mental disease.

Bayle, however, had already in 1822, in his inaugural thesis, formulated a new theory and changed the condition of affairs. According to him general paralysis is not a mere complication of insanity, but is a true morbid entity. He designated it arachnitis or chronic meningitis, on account of its predominant lesion, made the ambitious delusions its necessary characteristic symptom, assigned it a regular course, divided into three sucessive periods; one of monomania, another of mania, the third of dementia. Like Calmeil he insisted on its anatomico-pathological characters, and consid-

ered pathognomonic the adhesions existing between the meninges and the convolutions.

The ideas of Bayle were accepted, little by little, and Parchappe in 1838 went so far as to regard general paralysis as a special form of insanity, which he designated under the name of paralytic insanity.

Requin, in 1846, proposed a restriction of this view, and considering that general paralysis, to which he applied the epithet progressive, may exist without mental symptoms, he recognized two forms: the one with intellectual disorders, the other without any disturbance of this kind. This distinction has been confirmed and made more precise by a number of authors, notably by MM. Sandras, Lunier, and Baillarger. The latter has even claimed that, in a psychic point of view, it is the dementia and not delusions that constitute the essential symptom of the disease. He also proposed for it the name of paralytic dementia (1846).

From this date, investigations multiplied and there appeared a series of important memoirs on the subject, among which may be especially cited those of Ch. Lasègue, J. Falret, and A. Linas.

In 1858 there took place in the Medico-Psychological Society a long and interesting discussion which resulted, in spite of the objections of certain opponents, notably of Baillarger in the endorsement of the views of Bayle, namely, *the principle of the essentiality of general paralysis.* From

that time to the present, the theory of general paralysis has not been brought in question.

The notion of a morbid entity having been accepted, attention was turned more particularly to the study of the characteristics of the disease.

In a first period, filled especialy with the memoirs of Baillarger, the clinical analysis of the disorder was taken up and its description perfected.

In a second, began the investigation of the anatomo-pathological lesions and the application to it of the microscope. It is no longer a chronic meningitis or meningo-encephalitis that constitutes the chief alteration of the disorder. According to some it is a sclerosis of the connective tissue of the brain, others consider it a degenerative lesion of the great sympathetic, and finally, by certain individuals, it is held to be a myelitis rather than an encephalitis.

Next the attention is called anew to the alterations of the meninges and the cortical layers. The theory of localizations is applied to the study of the symptoms of paresis, and it has been sought to find in the localizations the reason of the symptomatic differences of the malady (Foville).

Already, however, new clinical facts, such as the remissions, latent general paralysis, general paralysis of double form, and in particular, syphilitic, saturnine and alcoholic pseudo-general paralysis had gradually overthrown the unitary theory which failed to explain them, and M. J. Falret went so far in

1877 as to say that the history of general paralysis must be rewritten.

Thus Baillarger (1882-3) proposed, with good reason, to return to the dualist theory upheld by him in 1858, which admits the existence in what we call general paralysis, of two quite distinct disorders, susceptible of existing associated with each other or separately: (1) paralytic dementia, the principal disease; (2) paralytic insanity, the accessory affection.

This dualist theory, upheld unceasingly by Baillarger to the last days of his life, counts today numerous partisans. Some alienists even tend at the present time to consider general paralysis not as a single malady, but as a group of more or less distinct diseases, according to their causes or their lesions, "as a genus comprising many species" (Ball).

At this point ends the history of general paralysis. *En résumé* when we glance over the whole scientific evolution of this disease we note that it has passed through three principal stages: (1) in the first, it is considered as a complication of insanity; (2) in the second, it represents a morbid unity having among its other symptoms, insanity; (3) in the third, finally, which is the present period, it tends to be considered, if not as a group of cerebral or cerebrospinal affections, at least as a paralytic dementia to which is associated more or less frequently, and under various conditions, insanity.

These various changes of opinion and differing

conceptions of general paralysis, have had their influence on the progress of its clinical study, which to-day is one of the most advanced in all mental medicine.

DESCRIPTION.—As a partisan, with M. Baillarger, of the dualist theory of general paralysis, which seems to me to best correspond with the facts, I believe that the disease in its most perfect, uncomplicated, and essential type is represented clinically not by this or that delusional form, but, on the contrary, by general paralysis without delusions, by a paralytic dementia essentially made up of a dementia and a progressive paralysis.

Contrary to the usual practice, therefore, it seems to me rational, and at the same time more profitable to the study, to describe first the type of the disease, that is to say, the paralytic dementia. Once acquainted with this type, we can next examine in the sphere of insanity, properly so-called, the various phenomena that are more or less habitually superadded to the paralytic dementia and their different modes of association.

PARALYTIC DEMENTIA.

(Prodomic or Preparalytic Period).

There is perhaps no disease that begins more gradually than general paralysis. Except when it begins with a congestive *ictus*, its invasion is so gradual and insensible that it is almost always impossible to fix its real commencement and its origin is lost, so

to speak, in the darkness of the past. When careful study is made of the life of the paretics and all data obtained from their families, we find that the first changes in the intellect, the feelings and the organic functions which indicate the beginning of the disease, date back many years before its apparent outbreak. There is a true prodromal period, called the pre-delirious period (Christian) or the pre-paralytic period (Régis), from its analogy with the pre-ataxic period of tabes.

This period, of which only a few symptoms are known, merits a special study. I will confine myself to the brief enumeration of the principal manifestations which chiefly are of a bodily and organic nature.

The general appearance of the future paretics is often modified a long time in advance. Their physiognomy is changed, they have a dead complexion, their flesh is flaccid and pale, their features drawn and lacking expression, the hair and eyebrows usually dry and thin, their eyes moist and lacking fire. Their teeth are carious and incomplete and often fall out spontaneously while the face border of the gums becomes the seat of a quasi-scorbutic ulceration.

On the side of the motility and sensibility we may meet with: spasms, convulsions (Jacksonian epilepsy), paralysis, nearly always ocular (strabismus, diplopia, ptosis, inequality and immobility of the pupils), which are relatively very frequent in the years preceding the attack of general paralysis. We

also find hyperæsthesias and anæsthesias of the organs of sense and of the cutaneous surface, loss of memory of localization of tactile sensations (Ziehen), various derangements of the reflexes, especially loss of the cremastic reflex with testicular insensibility and atrophy. Furthermore it is not uncommon to observe certain nervous disorders such as cephalalgia, neuralgias, ophthalmic migraine (Charcot), gastric and vesical crises analogous to those of tabes (Hurd), symptoms of cerebral or spinal neurasthenia, of partial epilepsy, and even of hysteria.

Sleep is one of the first functions to be disturbed and it is rare if it remains altogether intact. It is light, and unsatisfying, disturbed by dreams and nightmares, cramps, startings, and sometimes by epileptiform convulsions. Very frequently the respiration takes on a special type. It is carried on by short inspirations that hardly raise the chest walls and that are cut off shortly, followed from time to time by long and plaintive expirations. This is a characteristic mode of breathing during sleep that I have met many times in general paralysis and in all its stages.

Another hitherto undescribed sign, that from its frequency and ease of observation seems to merit special mention, is the condition of the sternum which by a slow process of periostosis finally diminishes the elasticity of the thoracic cage, while at the same time the xyphoid appendix, becoming ossified, is depressed, elongated, and incurved toward the abdo-

men in such a way as sometimes to produce severe pains. In some cases the thorax tends to become quite immobile and respiration consequently becomes almost exclusively abdominal, especially during sleep.

The alterations as regards the organic and trophic functions are not less frequent and numerous. I may mention: capriciousness of the appetite, tendency to dilatation of the stomach and the intestine, gastric pain and vomiting simulating serious disease of the organ, habitual constipation alternating with colic and sudden attacks of diarrhœa, palpitations and feebleness of the heart, increased sensibility to cold, vaso-motor disturbances, particularly flushes of blood to the head, trophic disturbances such as dystrophy and spontaneous shedding of the nails, *mal perforant*, arthralgias, etc., alternating exaggeration and suppression of the perspiration or of periodical fluxes, menstrual or hemorrhoidal, more or less transitory modifications of the quantity or quality of the urine (polyuria, glycosuria, peptonuria), and lastly alterations in various ways of the sexual power.

Mentally, the future paretic retains all the appearances of the most complete intellectual soundness. But he himself realizes that his mental energy is slowly diminishing, that work is becoming painful, that he has failure of memory, and that it is more and more by a sort of professional automatism that he accomplishes approximately well his daily tasks. Some observe and follow anxiously the slow process of mental and physical disorganization that is going

on in themselves, and fully conscious of their condition and even foreseeing their future, they may at this time announce their future general paralysis or seek to prevent it by suicide. Lastly, the character changes little by little; the patients become moody, absorbed in their condition; they are readily irritated, have fits of passion, changes of humor; they are unsettled and indifferent to everything. Sometimes they have true spells of neuropathic depression, with attacks of weeping; or rather, they become hypochondriacal, and complain of palpitations, of suffocation, of all kinds of evil feelings; they are anxious to consult about their condition, and never cease to lament it, while they gorge themselves with drugs. At other times on the contrary, they feel active and vigorous and in good condition, they have an abnormal feeling of well-being and show an extraordinary ardor for work.

Such, taken altogether, is the list of signs observed, either wholly or in part, in the years preceding the outbreak of general paralysis. Finally, however, this slow incubation is completed and the invasion of the malady begins.

There have been already manifested some signs of mental, moral and physical failure, forerunners of the coming trouble. "The attentive observer," remarks M. J. Falret, "already begins to notice momentary absences of memory or intelligence, and true *lacunæ* in the conceptions, in a word, the incontestable traces of a commencing dementia, which

are the characteristic of this mental disease, even from its first beginning."

These defects may be summed up as follows: intellectually there are strange lapses of memory, unusual mistakes in spelling or calculations, a lack of sequence in combinations and projects, an absolute inability to finish anything, etc. Morally, and this is most striking in patients of the higher clases, we see a very noticeable forgetfulness of the rules of politeness and decorum, a negligence in costume; sometimes also indelicacy and grossness, and finally, a more or less pronounced tendency to alcoholism, to a cynical erotism, to criminal acts, especially absurd and useless theft. Physically, the patient becomes awkward, unskilful, unfit for the work of his trade; if he is a mechanic, he bungles his work, begins it again only to do it worse, and loses more and more his aptitude for careful and accurate movements, so much so that he is dissmissed by his employers and he is finally unable to find work. At this same time there appear some slight disturbances of speech, consisting in a certain hesitation, especially apparent after eating, aud sometimes also true congestive attacks of the apoplectiform or epileptiform types.

In a word there have already supervened signs of enfeeblement in all three of the modalities of the individual, and these becoming gradually emphasized, attract more and more attention, and progressively conduct the patient to the first period of the disease.

First Period.

From this time on the paralytic dementia is established, and it is characterized from the first by two kinds of symptoms: the ones physical, the others intellectual and moral.

1. Physical Symptoms.—The physical symptoms consist in motor disorders, disturbances of the organic functions.

A. Disorders of Motility.—The principal disorders of this nature are: embarrassment of speech, tremor, muscular weakness, and oculo-pupillary disorders.

Embarrassment of speech is the chief pathognomonic symptom of general paralysis. When it is not observed, whatever may be the other symptoms, we may suspect, but cannot affirm the existence of general paralysis. The importance of its study will therefore be recognized. This hesitation in speech is very difficult to describe, but when one is accustomed to hear it, it becomes easy to perceive all its characters, even the slightest shades of difference, except in its beginning when it is only perceptible to practised ears. At first this hesitancy is not continuous, and only manifests itself in an intermittent fashion.

When the patient rises from meals or when he is fatigued by reading or by a lengthy conversation, a syllable is badly pronounced and repeated, there is what we call an impediment; the emission of the sound remains suspended on the impeded syllable,

and then after this *faux pas* which lasts only a second, he again becomes at ease. Or perhaps the speech becomes slow, drawling, and as it were intoned. Gradually this hesitancy increases and becomes perceptible by every one. It assumes two rather distinct types: the ataxic, consisting in a species of incöordination of speech which is wandering, confused, and precipitate and full of mistakes; and the paralytic type, consisting in a staccato and sing-song slowness, a regular syllableizing of words and parts of words. This last is most frequent in paralytic dementia and in females.

In the first type of speech each emission of sound, every beginning of a word or sentence is preceded by a series of fibrillary ataxiform startings of the lips, so that there almost always elapses a certain space of time between the first effort and the final enunciation. To be assured of this the patient may be asked to pronounce difficult words, and as it is usually the labials that are worst articulated on account of his inability to manage his lips from his ataxia, it is best to ask him to repeat words with labials and without syllables that might aid him, such as *immovability*, *incompatibility*, or words with linguals and dentals such as *artilleryman of artillery*.

Tremor is one of the first phenomena to appear in the beginning of general paralysis; the very first according to Charles Lasègue. It affects most the tongue, the lips, the muscles of the face and of the legs and arms. This tremor, especially at the

beginning, is not a tremor *en masse*, like that of alcoholism, for example, it is a very fine ataxic, and what is called a fibrillary tremor. It is intermittent and shows itself particularly when the patient is about to make an effort. If he wants to speak all the muscles of his lips and even of his face enter into play, and fibrillary twitching, more or less marked, occur before and during the emission of the word. Projection of the tongue out of the mouth is done in a jerky manner, and its retention outside is very difficult (trombone movement, Magnan). In the hands the tremor is yet more pronounced when the patient makes an effort to carry them to the mouth, to button the clothing, to pick up any small object, or to perform any operation requiring precision and adroitness. The handwriting is changed, finely tremulous, covered with erasures, full of omissions and faults of grammar and spelling (dysgrammatic and ataxic writing). In the lower limbs the tremor is marked while walking, and is notably so when the patient is made to turn around quickly. The tremor of general paralysis falls into the same class as those of Basedow's disease and alcoholism, the vibratory or rapid tremor of Charcot (eight to ten vibrations per second). It differs therefore in this respect from that of paralysis agitans, from senile and mercurial tremors, which count only four to six vibrations each second.

The muscular enfeeblement is rather a paresis than a paralysis. The muscular power is certainly

diminished, but to a less extent than would be inferred from the awkwardness and disability of the patients. Indeed the dynamometer and the myograph indicate an average muscular strength properly speaking up to a late period of the malady. The patients are nevertheless quickly fatigued and are incapable of any great effort. The myographic traces obtained in them (Chambard) are characteristic. The line of ascent is more irregular and the line of physiological tetanus is interrupted by more or less extended ataxic contractions.

The oculo-pupillary disorders consist chiefly, either in an exaggerated contraction of the pupils (myosis) which may become mere pinholes, or, what is more common, an inequality of their dilatation. If this last symptom only is looked for, it is certainly, as has been intimated, not a constant one, and it is wanting in about one-third of the cases; but if all oculo-pupillary symptoms, exaggerated contractions, inequality of pupils, etc., are noted, it is very exceptional that none are met with. An excessive myosis may, moreover, mask an inequality too slight to be apparent under such conditions, as in some cases this inequality is revealed under the use of belladonna. Much importance has been attributed to the question as to which pupil was affected, and an intimate relation has been sought for between the side of the most dilated pupil and the mental form of the disease. It has been said that the right is larger in the depressive forms and the left in the

expansive forms. It is generally recognized as regards which pupil is altered, that it is the one that is most dilated, either from some disorder of the sympathetic innervation or from that of the motor oculi, and this fact has its importance since it may indicate in some measure in which hemisphere the lesions predominate. Aside from their contraction or unequal dilatation, the pupils may be deformed, ragged, and may not react under the effect of light or accommodation. Lastly, various other ocular troubles may exist, such as amaurosis, ptosis, achromatopsia, erythropsia (Ladame), nystagmus, etc.

B. Disorders of Sensibility.—Cutaneous anæsthesia, particularly of certain regions, and notably in the anterior thorax, has been observed as a sign of beginning general paralysis. What seems more sure is that from the moment the disease has fairly started the tactile sensibility is dulled, although it is difficult to definitely establish this fact on account of the demented condition of the patients. The same is true of special sensibility which becomes less perfect. Some writers indeed attribute a great importance to the enfeeblement of the gustatory and olfactory sensibility. As regards the reflexes, their condition is variable. According to Bettencourt-Rodrigues the cutaneous reflexes are generally diminished and the tendon reflexes exaggerated.

C. Disorders of the Organic Functions.—These disorders are but little pronounced in the first

period: digestive disturbances are the ones that predominate, and these consist in exaggeration of the appetite and a tendency to constipation.

2. Intellectual and Moral Disturbances.—The intellectual and moral disorders may be summed up in a general enfeeblement of all the faculties.

The memory becomes more and more untrustworthy, the patients lose their recollections of dates, names of recent events, of what they have done the day previous or wish to do at the moment, while preserving at the same time their former recollections; their imagination, their reasoning powers, their power of attention and of will become more and more obscured. They may still be able to fulfil their social duties, and even to carry on, by a sort of acquired habitude, some easy mental work that requires no effort of the imagination or initiative, but they are incapable of serious labor. They make serious errors in calculation, they leave their sentences unfinished, their conversation is disconnected, they lose their way in the streets.

Morally they become indifferent as to conduct and show a progressive alteration of the affective feelings, together with marked irritable weakness.

In a word they fail more and more and realize in an intellectual and moral point of view the ordinary tableau of dementia.

SECOND PERIOD. (PERIOD OF FULL DEVELOPMENT).

The transition from the first to the second period is an artificial one, based on no very well defined symptoms. It is recognized by the progress of the above described symptoms, especially the dementia and the paralysis, and frequently also by an increase of flesh that occurs at this time.

Apart from the epiphenomena of various kinds that may supervene, it is essentially constituted by the progressive accentuation of the already existing symptoms. The speech becomes gradually more and more embarrassed, till at the end of this stage it finally becomes almost unintelligible; the tremor, the paresis, the uncertainty of the movements and of progression increases; the intelligence fails, the ideas are more and more circumscribed and are gradually limited to the material matters of life, the simple needs of existence. The patients come to have no idea of what goes on around them; they commit absurd, automatic and childish acts, lose their sense of propriety, do not clothe themselves properly, they gather up filth, pebbles and scraps of paper with which they fill their pockets. They forget that they are married, that they have children, they live in the monotonous repetition of the same words and ideas. There is sometimes added to the other oculo-pupillary disturbances diplopia, amaurosis, etc.; and to the muscular disorders, contractures, particularly in the head which becomes rigid

and does not touch the pillow in the dorsal decubitus. Very often also there is a kind of mumbling, a sort of movement of rumination or tasting, that is sometimes continuous, together with a characteristic grinding of the teeth that may go so far as to wear away their surface and which is heard at quite a long distance.

The muscular weakness gradually increases so that walking is more and more impeded, falls are frequent, the patients have difficulty in carrying their food to their mouths. Nevertheless they gain considerably in flesh, and they become more and more voracious and gluttonous. Finally, they have a peculiar *facies* that has been called the *paralytic mask*, and which consists in an earthy tint and flaccidity of the cheeks, with obliteration of the cutaneous folds, particularly the naso-labial grooves, that deprives the face of all vivacity and expression.

After a longer or shorter duration of this period, which, according as it is complicated or not with congestive phenomena, may last months or even years, the patient gradually passes into the terminal stage, which is marked by a characteristic symptom; the relaxation of the sphincters, the result of which is the "untidy" (*gâteux*) condition.

Terminal Period.

At the moment the patient begins to soil himself he enters into the final stage of his disease.

He usually begins by wetting his bed at night,

then his clothing, first only occasionally, later, continuously; he gradually begins to allow his fæces to escape, and at last becomes altogether filthy; his vesical and rectal sphincters are paralysed. More rarely this paralysis reveals itself by a retention of urine or of fecal matter.

From this time on the paralytic becomes more and more degraded; he walks clumsily or in an ataxic fashion, is always on the point of falling, and soon is unable to keep the erect posture; he cannot dress himself, or perform the simplest acts; he ignores propriety, eats gluttonously and filthily and even eats his own excrements. The physiognomy is that of hebetude and absolute dementia; pupillary inequality is commonly very marked; the speech is only an incomprehensible stammering, sometimes complicated with true aphasia; the grinding of the teeth and the mumbling when present are very noticeable; the spasmodic tremors of the hands, the lips and the tongue increase; the contractures, especially in the neck, are very manifest; sensibility is almost or quite abolished; paralysis of the pharynx is added to that of the sphincters, so that the food, bolted down, is often accumulated in the isthmus of the throat and sometimes causes in this way asphyxia which may be fatal. Finally, failing constantly, the patients become bedridden and shortly there appear, under the influence of the alterations in the nervous system, trophic disorders and various forms of degeneration such as cachectic wasting, tendency to

fractures and luxations, although denied by Christian, erythemas, abscesses, *mal perforant* of the foot, spontaneous shedding and dystrophy of the nails and teeth, hæmatomas of the ear, purpura, sloughs of the sacral region and buttocks, and of the heel, etc. Such of these complications as give rise to a free suppuration, may, by the revulsion thus produced, cause a temporary improvement and regression of the evolution of the symptoms. It has been also remarked that in spite of the general bad condition of the patient, all these incidental disorders, fractures, abscesses, boils, *mal perforant*, etc., have a surprising tendency to recover.

The aural hæmatoma, the only one of these complications that from its frequency and the discussions to which it has given rise, merits our attention here, may be either single or double. This form of blood tumor is, it is true, sometimes met with in other forms of mental disorder, especially in epilepsy, idiocy, melancholia, mania, etc., as well as also in professional pugilists, but it is particularly frequent in general paralysis. The extravasation is often produced with great rapidity and develops within a few hours, but in most cases it takes several days for its full growth. The tumor may vary in size from that of a hazel nut to that of a pigeon's egg; it occupies all the pavilion of the ear but leaves the lobule intact. In the beginning it has a crepitant feel to the finger and when incised it discharges blood mixed with serous fluid. In spite of its apparent gravity the

tumor heals almost always in the course of a few weeks, but there remains a deformity that is generally characteristic and indelible. In an anatomical point of view hæmatoma is formed by an extravasation situated according to some (Foville) under the perichondrium, according to others (Mabille) between the cartilage and the skin; and according to some (Vallon) in the body of the cartilage.

The pathogeny is no better understood. According to some authorities hæmatoma is always the result of a traumatism, and of blows in particular. According to others it is spontaneous and is due to a disorder of innervation of the great sympathetic. It is probable that its essential cause is, in fact, in a disorder of the circulation, and that in consequence of this preparatory state, the slightest shock, such as the mere friction of the ear on the clothes, may give rise to its appearance.

During this period the patient fails steadily in his intelligence and moral qualities; his ideas are gradually contracted and abolished; he recognizes no one, feels no emotion or sentiment, he remembers nothing, his only manifested want is that for food, and he finishes by being reduced finally, as has been said, to a mere digestive tube.

Arrived at this stage the paretic presents the picture of a most profound and lamentable degradation, he has in him nothing more of his human nature and falls actually into the condition of a lower order of being.

Death is the invariable termination of this stage. It occurs either from the advancing physical failure (paralytic marasmus or cachexia), or as the result of some complication (incidental diseases, hypostatic pulmonary congestion, etc.), or finally from the effects of congestive attacks. The frequency and importance of these latter necessitates a word in regard to them.

Cerebral congestion plays a very important part in the course of general paralysis. It may announce the beginning of the disorder as well as terminate it suddenly by death in its later stages. It may also manifest itself at any stage of its course or duration. This cerebral congestion reveals itself under the most diverse forms, so that some authors, like Aubanel and Marcé have noted some six or eight varieties. In reality those that occur under the form of congestive attacks and constitute a true complication are the following: (1) *comatose;* (2) *hemiplegic;* (3) *apoplectiform;* (4) *epileptiform.*

In the comatose form the patient begins by showing a tendency to somnolence, to hebetude, to bodily and mental inertia. His face becomes congested and in a few hours he reaches the condition of complete coma with muscular relaxation and absolute insensibility, without usually any appreciable difficulty of respiration. These attacks are ordinarily not serious, and pass off rather rapidly under proper treatment.

In the hemiplegic form the paralysis occurs

suddenly, so to speak, without any premonitions. The patient all at once drops whatever he may have in his hands or one of his limbs gives way and a hemiplegia or monoplegia quickly appears, which lasts for a variable time but as a rule tends to disappear or become diminished within a few days.

In the following described form we see a genuine attack of the apoplectiform type. The patient falls as if struck by lightning and loses consciousness; a comatose condition follows with deeply congested visage, loud stertorous respiration, foam at the lips, muscular resolution, and relaxation of the sphincters. Death may occur at once, but generally this condition passes off in a few miuutes, and after a longer or shorter period of transition, characterized by hebetude and somnolence, the patient comes to himself, with still in some cases a transitory hemiplegia or a weakness of the vesical and rectal sphincters.

The epileptiform attack, the most frequent and most serious of all the congestive complications of general paralysis, also manifests itself by a sudden loss of consciousness with initial cry, pallor, followed by redness of the face, bloody foam at the mouth, and finally convulsions, sometimes general, sometimes and more often, limited to one side or to one-half of the face, to one arm or limb, and, as a rule accompanied by a rise of temperature which may reach to 104° F.

In the great majority of the cases the epileptiform attack is not an isolated one, others occur dur-

ing the same day separated by a longer or shorter interval of coma; sometimes there is a regular status epilepticus. These attacks, which may reappear many times in the course of the disease, especially in its later stages, are always followed by an aggravation of its symptoms, and occasionally by death, which may be predicted by the progressive elevation of the temperature. They often leave behind them various complications such as hemiplegia, contractures, aphasia, etc., generally transitory and capable of a certain degree of amelioration.

The epileptiform attacks of general paralysis, although not differing essentially in a clinical point of view from true epilepsy, are yet separated from its idiopathic form in many respects, and enter into the category of symptomatic epilepsies.

Insanity Connected with Paralytic Dementia.

(*Paralytic Insanity*).

Paralytic dementia of which the description has been sketched in the foregoing pages, is the most simple aud uncomplicated type of general paralysis, its fundamental expression. It presents itself in this form more frequently than is generally supposed, if we take account not only of the cases observed in the asylums but also of all those that exist outside institutions of this kind, especially in females, and which are more or less unrecognized. But be this as it may, in a large number of cases there are superadded to the symptoms described varied con-

ditions of insanity, that is to say, a generalized insanity of the maniacal or melancholic type is associated with the paralytic dementia, and impresses upon the latter cerebral conditions certain special characters that deserve our attention.

The form of insanity that occurs most frequently in paralytic dementia, at least in its beginning, is maniacal excitation with ambitious delusions. This maniacal condition, which usually opens the scene, consists in a more or less marked exaltation of the intelligence, the feelings, and the bodily functions (functional dynamy), in a marked mental and physical hyperactivity, an exaggerated desire for movement, ideas of ambition, of invention, of riches, with tendencies to absurd thefts, to erotism, to alcoholic excesses, etc., etc. Later as the dementia increases this exaltation of the faculties gradually disappears, and gives place to delusions of greatness that are absolutely typical, the characteristic of which is their absurd, mobile, contradictory and incoherent character. These characters are due to the dementia which forms the basis of the mental condition. The delusions of the patients include all possible grandeurs. They have immense wealth, millions and milliards, they are princes, dukes, bishops, popes; they boast to the fullest degree strength, health, fortune, business, success, their family, the number of their children, etc. Everything in their claims is superlative. Satisfaction and happiness are shown in all their being. In general, and apart

from their temporary spells of passion, they are good-natured, philanthropic and generous to excess.

Next to maniacal excitation, acute melancholia is the most frequent form of insanity observed in the beginning or during the course of paralytic dementia. As we know, it was long held, with Bayle, that ambitious delusions were constant and pathognomonic in general paralysis, and it required all the efforts of Baillarger to establish the fact that in this disease the insanity was rather frequently of the melancholic type. As this author has shown the delusions in these cases generally manifest themselves in absurd, incoherent hypochondriacal ideas relating to the organic functions and especially those of the digestive tract. The patients claim that their aliments do not pass, that they have no mouth, no arms, they are constipated, obstructed, rotten, they are dead, etc. More rarely they suffer from ideas of persecution, of culpability, of ruin, dishonor, etc., and in these cases we may meet with hallucinations of hearing, sight or touch,—moreover usually denied—which seem to be less common in in the other forms of paralytic insanity. Whatever may be the form of the delusion it is essentially absurd, silly, and incoherent. There are also very frequently added refusal of food and ideas of suicide.

After these two varieties of insanity, those most frequently met with in paralytic dementia are: acute mania, with very active excitement, delusions of

greatness, incoherence, and violence; hyperacute mania or acute delirium, which then takes the name of acute paralytic delirium, and constitutes the most acute and rapidly fatal of general paralysis; finally, simple melancholic depression and sometimes melancholia with stupor.

The characteristic of all these conditions, of whatever form, is the absurdity of the conceptions due to the dementia.

These forms of insanity are associated with paralytic dementia in many different ways.

In certain cases an attack of maniacal excitement with functional exaltation of potency, breaks out at the very beginning of the disorder, and continues, in more or less acute attacks throughout its whole course. (General paralysis of the expansive type, the maniacal type, the ambitious type). In other cases melancholia with hypochondriacal delusions accompanies the affection from beginning to end. (General paralysis of the melancholic, depressive and hypochondriacal types).

Occasionally also the insanity, after having appeared in the melancholic or, what is more frequent, the maniacal form, may disappear either at the commencement or during the course of the disorder, leaving behind it only the symptoms of paralytic dementia. In such a case there is produced what is called a remission, a clinical feature that has been variously interpreted, but which ought to be considered with Baillarger, as the disappearance of the

attack of insanity with persistence of the paralytic dementia, which continues its progress whether complicated or not by new attacks of maniacal or melancholic paralytic insanity.

In other cases still, the ambitious mania disappears, but only to give place to an attack of melancholia, generally hypochondriacal in its character, an alternation which may be many times reproduced with or without intermediate remissions, but generally in a less regular manner than is the case in true double form insanity. This is what has been designated general paralysis of double form or circular paresis. According to Baillarger's theory these cases are not to be explained by a modification of the paralytic dementia which itself remains fixed and unchangeable, but by the circular character taken on by the insanity instead of its continuing always the same. Paralytic double form insanity and the remissions are observed especially among the subjects of heredity and more particularly amongst those with heredity of vesania.

In some cases finally, the attacks of paralytic insanity, whether mania, melancholia or circular, occur and continue for a longer or shorter period, without the symptoms of paralytic dementia manifesting themselves. Recovery or death may take place without their appearance (latent general paralysis).

Only by thus considering the relations of general paralysis and insanity by their possible disassociation, are we able to comprehend the very diverse ways of

manifestation of the latter, which would be inexplicable were we forced to admit, according to the unitary theory, that insanity formed one of the essential constituent elements of general paralysis.

Course. Duration. Termination.—General paralysis may be either primary or consecutive to some other disease, generally one of the nervous centres, like locomotor ataxia, for example. When it commences thus with spinal symptoms, it is called ascending general paralysis, or general paralysis by propagation.

Here it should be stated that general paralysis and tabes are diseases absolutely similar in origin and nature and that they have very close relations with each other. It is not uncommon to see general paralysis beginning or terminating with the symptoms of ataxia, and even in some cases presenting throughout its whole course a mingling of spinal and cerebral symptoms.

The usual course of paralytic dementia, when uncomplicated, is progressive and the duration of all three periods averages two or three years in the male and three or four in the female, the longer duration in the latter being due to the less frequency of congestive complications. Its invariable termination is in death.

When paralytic dementia is accompanied with insanity, however, its course may be modified. When the insanity is of the continuous type and persists all

the time, no change occurs in the progress of the disorder except in cases when it takes on the hyperacute form (paralytic acute delirium) when death supervenes in from ten to fifteen days. If, however, the insanity is of the remittent type (remissions) or the circular type (alternating general paralysis) the duration will be longer and may extend over seven, eight, or even ten years or more.

Finally, when paralytic insanity appears alone (latent general paralysis), *recovery may occur* either temporary or definite, the incurable lesions of paralytic dementia not having yet developed.

Pathological Anatomy.—The lesions commonly encountered in general paralysis are of two kinds, macroscopic and microscopic.

Macroscopic Lesions.—The dura mater is very often thickened, adherent to the cranial walls, with here and there osseous deposits and in certain cases with false membranes.

The arachnoid is also thickened and opaque, distended by the engorged vessels, and it has patches of granulations of conjunctive tissue particularly along the great longitudinal fissure.

The pia is usually injected and covered with arborizations. It sometimes presents whitish streaks in the periphery of the vessels.

The meninges are almost always adherent to the cortex of the brain. These adhesions, noticed by the earliest observers, are properly considered to be the

most characteristic and constant of the macroscopic lesions. In some exceptional cases they may be wanting. Sometimes they are hardly apparent, especially when the patient succumbs in the early stages of the disorder, the meninges then being just barely attached to the cerebral cortex. Commonly the meninges in being detached take with them small portions of the cortical tissue, so that after their removal the brain surface shows here and there more or less marked erosions or ulcerations. The most frequent seat of these adhesions is the superficies of the cortical folds of the antero-lateral lobes, particularly the horizon of the convolutions bordering the fissure of Rolando. Sometimes, on the other hand, they predominate in the occipital region, occasionally they are scattered over the whole brain.

The cortical layer is thinned, there is absorption and atrophy. It is softened and comes away in pulp. It separates the more easily from the white substance which is, on the other hand, indurated. By scratching with the back of a scalpel the cortical layer becomes detached and there is produced the phenomenon of *crests* (Baillarger), that is, we cause white, firm ridges or crests, entirely deprived of gray matter.

The lateral ventricles, and especially the fourth ventricle, are lined with serous exudate and nearly always show the so called ependymal granulations (Joire, Magnan, and Mierzéjewski). These granulations are like bits of parchment or of chicken's

flesh; if not at once seen they may be rendered visible by viewing obliquely the ependymal surface. Sometimes the ventricular parietes are full of fine holes. The cavity of the lateral ventricles seems enlarged.

In the later stage the brain loses a noticeable part of its weight, and the inequality between the two hemispheres is increased. The gray matter varies according to the degree of disorganization; it sometimes assumes a slaty color, which is due, according to Baillarger, to purulent infection produced by the eschars.

Microscopic Lesions.—These lesions are observed at once in the vessels, in the interstitial tissue or neuroglia, and in the nerve substance proper.

The alterations of the vessels, the earliest and most constant lesions, consist first in a considerable increase of the nuclei in the walls of the capillaries which gradually becomed thickened and narrowed. Then extravasations of blood occur, composed mainly of white globules, and the adventitia, charged with nuclei of new formation and deposits of pigment, sometimes presents miliary aneurysms.

At a more advanced stage we observe in the vessels various states of degeneration, such as colloid and fatty degenerations.

The alteration of the interstitial tissue, which begins in the inferior layers of the gray substance and propagates itself from below upward, consists in a morbid development of the connective tissue

cells, known under the name of *spider cells.* At the same time the neuroglia increases, and according as it develops, it crowds and chokes out the cerebral cells.

The nerve substance proper may be relatively spared, and its alterations are mainly secondary. Its cells, compressed as we have seen by the progressive expansion of the connective tissue, undergo a series of degenerative lesions; they become softened, lose their nuclei, and finish by a granular fatty degeneration, at the same time as the intracortical nervous fibres disappear (Tuczek, Targowla). The white tissue resists longer, but finally succumbs in its turn: we observe hypertrophy of the cylinder axes, fragmentation of the myeline sheaths, and their granular fatty degeneration.

The cerebellum, much more rarely affected, may nevertheless show softening, serous induration, atrophy of Purkinje's cells, etc.

The lesions of the brain extend as a rule to the cord, which is in some cases profoundly altered, and its posterior and lateral columns sometimes undergo a sclerotic degeneration.

We also encounter lesions in the region of the great sympathetic. According to Bonnet and Poincarré, these lesions, which are very important, are located in the cells of the ganglia, which first suffer a pigmentary alteration and then in time disappear, being replaced in part by cellulo-adipose tissue. According to the more recent researches of Popoff, the

grand sympathetic exhibits in general paralysis two kinds of lesions: (1) thickening of the vascular walls, proliferation of interstitial conjunctive tissue of the ganglia; (2) diminution by half and extreme pigmentation of the cells, which undergo vacuolization but never fatty degeneration.

The nerves are sometimes the seat of various alterations. Sclerosis of certain cranial nerves, atrophy of the sciatic, and also peripheral neuritis have been found.

Up to the present the nervous lesions have mainly been studied in the pathological anatomy of general paralysis. It is certain nevertheless that the viscera are also altered and this also merits attention. It is not uncommon, in autopsies, to find in one or many of these organs, manifest traces of sclerosis or of softening.

Diagnosis.—The diagnosis of general paralysis, often easy on account of the assemblage of typical symptoms accompaning the disease, may, nevertheless, in certain cases, present some real difficulties. It will be most convenient here to consider separately the diagnosis of paralytic dementia and of paralytic insanity.

(1). Simple paralytic dementia may be confounded with apoplectic dementia. It can be distinguished from the latter mainly by the fact that apoplectic dementia, usually supervenes at a more advanced age and ordinarily in atheromatous subjects; moreover,

it is usually accompanied with hemiplegic symptoms which are lacking in general paralysis; the embarrassment of speech is not the same; pupillary inequality is often wanting; lastly, the sensibility is much more marked and is sometimes characteristic.

Intracranial tumors (cancers, tubercles, syphilis, cysticerci, echinococci, etc.), may give rise to encephalopathies that are more or less analogous to general paralysis. It is rare, however, for their symptoms to be as diffuse and as generalized: on the contrary, certain special symptoms, such as headache, amaurosis, vomiting, partial paralyses and epilepsies, are very frequent.

A diagnosis is sometimes difficult between general paralysis and multiple sclerosis in its imperfect or its cerebro-spinal form. In some of these cases there is a genuine embarrassment. As a rule the signs of dementia are less marked in multiple sclerosis; moreover, certain physical signs such as embarrassment of speech and tremor have different characters from those in paresis.

The most important and the most delicate diagnosis, however, is beyond dispute that between the true and the pseudo-general paralysis. Under this latter name it is understood we include those cerebral conditions clinically analogous to general paralysis, but differing from it in their tendency to recovery. Some authorities who do not recognize in principle the existence of pseudo-general paralysis consider these conditions as special forms of paresis.

The greater number, however, see in them only more or less exact morbid imitations of general paralysis. Substantially there is between these two ways of viewing the subject only a simple difference of the names of special general paralysis and pseudo-general paralysis, all the world being in accord as to the reality of the clinical facts. It is better therefore to continue to accept pseudo-general paralysis, just as we admit, at present, pseudo-tabes and pseudo-multiple scleroses.

The pseudo-general paralyses are, for the most part, the result either of an infection (syphilitic pseudo-general paralysis), or of an intoxication (alcoholic, saturnine, etc.), possibly also of a neurosis (hysterical, neurasthenic, epileptic pseudo-general paralysis). As the lamented Baillarger insisted, up to the last days of his life, it is not paralytic *insanity* that they simulate (there is not and cannot be any pseudo-paralytic insanity, since paralytic insanity is itself susceptible of cure), but the true general paralysis, properly so styled, or paralytic dementia, with or without delusions. They present themselves therefore with the symptoms of dementia and paresis that characterize this disorder. The clinical picture may be more or less identical; it is often such that any symptomatic diagnosis is impracticable from the beginning. Thus it is certainly not from the difference of the symptoms that the distinction is made, as has been vainly attempted by the majority of authors. In my opinion this distinction is only

to be found in the difference of the course and prognosis and consequently in the lesions. As I have said already in reference to syphilitic pseudo-general paralysis, the genuine general paralysis has a progressive course, a fatal prognosis, and irremediable lesions. Pseudo-general paralysis, whether infectious as in syphilis, or toxic as in alcoholism, has a regressive course, a relatively favorable prognosis, and curable lesions. It follows therefore that the diagnosis between the two depends essentially on the radically different evolution in the two cases.

(2). Paralytic insanity may be confounded with simple insanity in the various forms under which it presents itself.

Thus the attacks of maniacal excitement of the beginning of general paralysis may be taken either for an attack of simple maniacal excitement or for the excited period of a double form insanity, which, as we have seen, often assumes this type of mania. The diagnosis is, in general, very difficult and is sometimes even impossible, since at this stage there is not yet any dementia in general paralysis; and, on the other hand, the physical signs are but little apparent, and also may exist to the same extent in double form insanity. The two most important diagnostic signs are: (1) the initial signs of mental weakening which show themselves from the beginning in paretics; (2) the good nature and habitual generosity of these patients which, at this period in particular, are in strong contrast with the usual maliciousness of

the insane of the double form type. The history of the case comes in to remove all doubts by showing in the latter either prior attacks or a vesanic heredity, often similar in kind.

When general paralysis has progressed and the ambitious delusions are in full swing, it is hardly possible to mistake it with the insanity of exaltation (partial insanity). Aside from the fact that the ambitious delusions of paralytics have a stamp of dementia, of absurdity and incoherence, altogether lacking in the other, we know also that the exalted delirium of partial insanity is never a primary form, but that it succeeds another type of delusions, generally those of persecution; it is, moreover, accompanied by numerous hallucinations, while hallucinations are rather rare in general paralysis, at least in its maniacal form. Finally, taking into account only the insanity itself, the *délire des grandeurs* of general paralysis is a generalized insanity, that is to say, attended with excitement, while ambitious delusions form a partial insanity.

The acute mania of paralytic insanity may be taken in its beginning for an attack of acute simple mania, and in the same way the acute paralytic delirium may be mistaken for simple acute delirium. The diagnosis in these cases is often very difficult, and in some cases can only be made at the autopsy. It is necessary to take into account the age of the patient and his antecedents and to particularly look for the physical signs of general paralysis.

Melancholia of paralytic insanity may be confused with simple insanity or with the melancholic stage of double form insanity. It must be kept in mind that as a rule physical symptoms and mental weakness are present in general paralysis. The delusions, moreover, take ordinarily an absurd and often typically hypochondriacal form, although, as I have shown, this may also be met with in certain cases of simple melancholia.

Paralytic insanity may present itself under the form of stupor and the patient neither speaking nor moving, the diagnosis is almost impossible. The inequality of the pupils is almost the only differential sign of any value.

It would seem that when paralytic insanity assumed the alternating form that it ought to be hard to distinguish from double form insanity. This is not the fact, however, since in these cases the physical symptoms are usually more or less marked; moreover the return of the attacks never occurs with the same regularity as in those of double form insanity.

Etiology.—The etiology of general paralysis has always been one of the points most discussed in the history of this affection. The predominant opinion at the present time is that which attributes it to the joint action of two causes: a predisposing cause, represented by a *congestive* or *cerebral* tendency, usually hereditary; and an occasional cause, which is nearly always *syphilis*. At least this is my own opinion,

as well as that of a great number of authorities, especially in other countries.

We must pass in review here the principal predisposing and determining causes, both general and individual, that influence, more or less, the development of general paralysis.

Predisposing Causes.—*Epochs and Countries.*—The question whether or not general paralysis existed in the past centuries has been much discussed, and if it had been ever so infrequent it ought not to have completely escaped the attention of our predecessors. On the other hand there is no doubt that its frequency tends to increase from day to day. We may, therefore, conclude with certainty that general paralysis is a contemporaneous malady and especially a disease of the nineteenth century. This fact should be compared with the marked predilection it shows for certain countries and especially for the great centres. In a general way, in fact, and aside from certain exceptions, it is rare in uncivilized lands, while on the contrary it is very frequent amongst the peoples who have reached their apogee and are on their decline.

Western Europe and North America are therefore the principal foci of this disease. In this regard an American author has said that the frequency of general paralysis in the various countries may serve in a certain measure as the thermometer of the degree of their civilization. It may be admitted, consequently,

that the excesses of civilization and the evil effects of all kinds that follow, by causing a cerebral wear and tear that goes on augmenting from generation to generation, gradually diminish the power of resistance of the nervous system in the descendants and create in them a predisposition to degenerative cerebral affections, and notably to general paralysis.

Age.—General paralysis is, as I have elsewhere called it, a climacteric disease, that is, one associated with a certain period of existence. This period is, as we are aware, the apogee of life. M. Luys has explained perfectly the reason of this by showing that the interstitial framework of the brain, the evolution of which is continuous, finds itself at this moment in a state of critical proliferation, in "a sort of preparatory physiological condition that may incidentally become a pathological process under the influence of an incidental nutritive hyperexcitation." As regards the epoch of maximum frequency of general paralysis, it is rather hard to fix it absolutely. While it was set at forty-five, forty-eight, and even fifty years in Bayle and Calmeil's times, it has certainly decreased since then and, for myself, I found it at thirty-eight in three hundred and seventy general paralytics that came under my observation at the Asylum of Sainte-Anne. This lowering of the average age of the malady speaks ill, according to the English author Mickle, for the vitality of the populations of Western Europe, at least, inasmuch as general paralysis is to be considered as the result

of an exaggerated expense of vital force and of a premature senility. Besides this reduction of the age at which general paralysis most generally manifests itself, it is certain that we tend to observe cases occurring prior to the culminating point of life. In a recent study of these cases, which I have called *premature* general paralysis, I showed that it is possible to find cases under twenty years of age. Since then new facts have been published, and it is generally admitted now that there is a premature or precocious general paralysis, which commonly appears in the form of simple paralytic dementia, and which seems to be the result of a precocious syphilis, personal or hereditary. On the other hand there may occur cases of late general paralysis, occurring after the age of sixty or sixty-five years. This form of general paralysis, called *senile*, also bears the name *atheromatous*, since it is nearly always accompanied with lesions of the heart or arteries.

Heredity.—As we have said above, the most important predisposing cause of general paralysis is the congestive or cerebral tendency, usually the result of heredity. For a long time the heredity of the insanity and that of general paralysis were confused, and some authorities still hold, with Marcé, that these two affections have a common origin and reciprocally engender each other. But this is an error. General paralysis has its source in an heredity that is not vesanic but cerebral arthritic or congestive,

as has been shown by the memoirs of Lunier, Doutrebente, Baillarger, Ball and Régis, Lemoine and Pierret. We may, it is true, meet with paretics, the issue of insane parents, but I have noticed that this particularity shows itself in the vesanic, remittent or circular form, in a word, that it is imposed upon the general paralysis by the predominance in the subjects of the paralytic insanity over the paralytic dementia.

I have many times consecutively found consanguinity in the ancestors of general paralytics.

Sex.—It has always been remarked that general paralysis is more frequent in the male sex, and also that it becomes more common in the male according as we rise in the social scale, while the contrary is true of the female. The special study I have given to the disease as it occurs in the latter has enabled me to reach the following conclusions which are evidently only applicable to France: (1) In the population of the rural districts general paralysis of the insane is hardly one and a half times more common in men than in women, and is very rare in either sex; (2) among the laboring population of the large cities it is three times more common in men than in women, and is relatively frequent in both; (3) in the higher classes of society it is nearly thirteen times more frequent in men than in women, and is very common in the former while it is rare in the latter. In proportion to the whole number of the insane, it was found: (1) 3 male paralytics in 100 insane males in the country, and

2.13 female paralytics in every 100 female insane; (2) in the working classes of the large cities 23 paralytic males in 100, and 7.7 paralytic females; (3) finally, in the higher classes of society, 33.33 paralytic males and 2.58 paralytic females. My investigations were made on 7,552 insane of both sexes, including 868 general paralytics. These figures approach very nearly those of MM. Christian and Ritti and those of M. Planès. It is also generally agreed that at the present time the increase in the number of cases of general paralysis is much more noticeable in the female than in the male. Of late years there have been observed a certain number of cases of *conjugal general paralysis*, i. e., affecting husband and wife at the same time. These cases seem to be due to the reciprocal syphilization of the two partners. Not only is general paralysis less frequent in the female, but it presents in her some special features. It occurs sometimes in the prime of life, sometimes, on the contrary, later and especially at the critical age; it usually takes the form of simple paralytic dementia, and, lastly, it persists for a longer time.

Professions.—It is the liberal professions, the intelligent classes and generally those that labor most with their brains that furnish the greatest contingent to general paralysis, at least in men. This has been recently contested, but not with reason, by M. Arnaud. It is in fact sufficient to fix the comparative ratio of general paralysis to the other forms of insanity in the different establishments for the

insane, to demonstrate that this proportion is higher in the private than in the public institutions of the same centre, and also, what is very significant, that it is greater in the private asylums of the provinces than in the public asylums of the great cities and of Paris. In the higher society general paralysis is particularly frequent among savants, lawyers, physicians, politicians and business men, artists, the military (especially the officers).

Occasional Causes.—It was said in the beginning of the remarks on etiology that the most potent occasional cause of general paralysis is *syphilis*. This is at present the common opinion abroad, as is demonstrated by numerous statistics published on all sides. In France this is not the case, and it is hardly two years since I, with MM. Morel-Lavallée and Belières, was almost alone in supporting this opinion. It must be said that, imbued with the opinion that syphilis is rare in general paralysis and that it can only produce a pseudo-form, the majority of alienists of our country remained indifferent to the question and abstained from any personal investigation in this direction. Since, however, a certain interest has been aroused in the matter, this indifference has decreased, and already many statistical contributions have appeared that indicate that when one takes the trouble of investigating with the needful perseverance it is found that syphilis exists, as I have held, in seventy to ninety cases out of

a hundred in general paralysis (Bonnet and Anglade, Thèses, 1891). There is reason to believe that these statistics, absolutely conclusive as they are, will not delay multiplying and that in a short time a very large majority of French alienists will be fully converted to the opinion of the extreme frequency of syphilis in general paralysis. When this point is reached, and, I repeat, I have no doubt in regard to it, it will then be in order to find out whether general paralysis is a disease due to syphilitic lesions, known or unknown, or a cerebral entity indirectly developed under the influence of syphilis; in other words, whether it is a *syphilitic* or a *para-syphilitic* disorder. The question is now at this stage in other countries; the chances of its solution will only be increased when we take it up ourselves.

Aside from the effect of syphilis, which, I repeat, seems to be preponderant, the other occasional causes of general paralysis that may be cited are: mental overstrain, venereal excesses, and the various intoxications (nicotinism, alcoholism, saturnism, pellagra, etc.), which themselves especially give rise to pseudo-general paralysis. There have been noted also, as more or less active causes, the effect of insolation and of sojourns in an overheated temperature, the menopause, the suppression of hemorrhoids, or menstruation, cranial injuries, erysipelas of the face, typhoid fever, and lastly, locomotor ataxia and even diphtheria. General paralysis does not favor certain conditions like the hysterical tendency. It only

develops in such but rarely and when it exceptionally does occur, it may cause, as I have indicated, a kind of antagonism between the neurosis and the general paralysis, from which results a suspensory action or an inhibitory action of the first upon the second. It is also this antipathy of general paralysis for the nervous diathesis that forms, according to my opinion, one of the principal reasons of the less frequence of general paralysis in females.

TREATMENT.—In the majority of cases general paralysis is only recognized after it has clearly manifested itself. It is therefore nearly always impossible to institute any preventive treatment.

It is very important to know in what conditions of general paralysis sequestration becomes necessary. Although it is perhaps impossible to establish any fixed rule in this regard, it may be said that in a general way confinement is needed in every case attended with insanity, whatever may be its character, maniacal or melancholic, while it is not absolutely necessary in cases of simple paralytic dementia. Sequestration should be advised especially in the beginning of the disorder, when maniacal excitation exists, as it is in this stage, so justly called by Legrand du Saulle the *medico-legal* period, that the patients are led to commit criminal acts, particularly absurd thefts, or to launch out in adventurous projects and imperil their fortunes. In case of remissions in the course

of the disease, it is needful to exercise great prudence as to setting the patients at liberty, as these remissions are commonly only temporary, and generally dependent on the sojourn of the patients in the establishment for the insane.

The medical treatment, properly speaking, of general paralysis includes an infinite number of agents, none of which, unfortunately, has up to this time, afforded any really favorable results. Those from which the best effects have been obtained are revulsives applied to the nucha, especially setons, permanent vesication, fine cauterization of the posterior cervical region; unfortunately these are efficient only early in the disease and are, moreover, borne only with impatience by the subjects. Large and repeated paintings with iodine may also be tried as recommended by Pritchard Davies, and cautious suspension with a modified Sayre apparatus from which good results have been obtained by M. Frièse and myself. As to irritant frictions of the scalp, recommended by some authors, and trepanation, recently tried by Shaw and Batty Tuke, they should be rejected as too painful and without any real action. The same is the case with mineral waters, sea bathing, and especially hydrotherapy, very often prescribed for paralytics in the early stages of their malady, but which are hurtful rather than useful and too often have only the effect of augmenting the already existing tendency to cerebral congestion. One should also be very cautious as to abstraction of

blood and have recourse to it only in exceptional cases. Some authors have obtained good effects from the use of galvanic currents to the spinal cord.

In the way of medication, antisyphilitic treatment may be tried, which unfortunately is almost always without any decided effect, the iodide of potash alone, in moderate doses and according to the case, sedatives, opium, morphine, veratrine, hyoscyamine, hyoscine, chloral, sulfonal, hypnal, bromides, digitalis, ergotine, bitter tonics, iron preparations, but especially the evacuants, which, administered at proper times, may have a salutary effect on the course of the malady and may even prevent the congestive complications. In case of congestive attacks, sinapisms, repeated purgative enemas, alkaline bromides, associated or not with chloral, and finally subcutaneous injections of ergotine, recommended by Christian and Girma, should be employed. Other complications, such as refusal of food, incoercible agitation, retention of urine, untidy condition, eschars on the sacrum, incidental diseases, etc., etc., call for appropriate hygienic and therapeutic attention.

Apoplectic Dementia.

Circumscribed lesions of the brain rarely give rise to attacks of insanity properly so-called; they oftener produce a variety of dementia known under the name of apoplectic, organic, or hemiplegic dementia, to differentiate it from the simple or senile forms. Among these lesions, focal softening

is the one that produces the most pronounced mental symptoms.

There is a prodromal period of more or less duration, with symptoms of depression or, on the other hand, of excitement, continual desire to sleep, hallucinations, particularly visual ones, obtusion of intelligence, followed by hemiplegia of the left or right side, and with this last almost always aphasia. There are cases where the mind is intact, but these are rare, and the patient generally continues worse in this respect after the attack; sometimes even the mental enfeeblement becomes progressive and terminates in complete dementia, with which may be associated more or less acute attacks of mania and, even more probably, melancholia.

The most salient clinical feature of apoplectic dementia is the tendency to emotional disturbance which is particularly shown by these patients in spells of crying on the occasion of their being asked the slightest question. According to M. Luys, this emotionality is more marked with left than with right hemiplegia, and he recognizes as its anatomical localization a lesion of the cortex which corresponds with the upper part of the right temporal lobe at the inside of the Sylvian fissure.

In other respects, apart from bodily symptoms, apoplectic dementia is almost analogous to senile dementia.

§ II. INSANITIES CONNECTED WITH DISEASES OF THE SPINAL CORD.

(Locomotor Ataxia. Multiple Sclerosis).

Locomotor Ataxia.

Since attention has been especially called to the mental state of tabetic patients, it has been recognized that mental disorders are very common in them. Usually these are limited to simple modifications of the intellect and character that show themselves in irritability, distrustfulness, low spirits, hypochondria, discouragement and tendency to suicide. In some cases, and this may occur in the beginning, in the pre-ataxic period, sensory disturbances make their appearance, consisting in illusions and hallucinations, more or less conscious, principally in the domains of vision, of audition and of general sensibility.

The psychic disorders, however, are not always thus limited and in certain cases they reach genuine insanity. Pierret and Rougier, who have made a special study of this insanity, have shown that it is usually a lypemaniacal condition, with vague ideas of persecution and confused hallucinations. The patients accuse persons about them of wishing to poison them, of burning them, they complain of hearing insults, of having a bad taste in their food and in their mouths, and of feeling tingling and other disagreeable sensations all over their bodies. The insanity may likewise reveal itself under the

hypochondriacal or the ambitious form as in general paralysis.

Moreover, tabes may be accompanied with an intellectual enfeeblement which occasionally causes a decided difficulty in the diagnosis between it and general paralysis. There are also cases, as we have seen, where the disorder becomes complicated, so to speak, hybrid, and has at the same time the characters of tabes and general paralysis.

Multiple Sclerosis.

Disseminated sclerosis, like locomotor ataxia, may induce a condition of mental failure that, on account of the concomitant tremor and embarrassment of speech, suggests more or less strongly paralytic dementia. The facts on which the sometimes difficult diagnosis is to be based have been already pointed out. The less constant and less pronounced mental weakness, the more paralytic than ataxic embarrassment of speech, and, lastly, the intention tremor, particularly mark multiple sclerosis.

It is rare that insanity complicates multiple sclerosis; on the other hand, rudimentary psychic disturbances, alterations of the intelligence and changes of character are rather frequent, but do not offer any point of special interest.

§ III. INSANITIES CONNECTED WITH NEUROSES.

(Epilepsy, Hysteria, Chorea, Paralysis Agitans, Exophthalmic Goitre).

The mental disorders connected with the neuroses, especially those complicating epilepsy and hysteria, are described in most works devoted to nervous diseases and are consequently known to all. I will here only review their principal features.

Epilepsy.

(*Epileptic Insanity*).

We here have to notice successively: (1) the mental condition of the epileptics; and (2) epileptic insanity properly so-called.

1. The Mental Condition of Epileptics.— When epilepsy is not engrafted upon some mental infirmity, such as imbecility or idiocy, epileptics are often very intelligent. It is only in the long run that the mental faculties are altered or enfeebled. The mental disturbances are mainly shown in the character. In regard to this there are two classes of epileptics, the ones sombre, taciturn, distrustful, quick to take umbrage, always ready to quarrel, to wound, to strike; the others, on the contrary, are obsequious, obliging, cajoling, full of effusiveness and goodness, but a goodness that is only in appearance and that hides their claws. In fact, epileptics

are subject to fits of choler, and to violent and furious passions, during which they are not masters of themselves and would readily commit homicide. They are often vicious and have perverse instincts; they are gluttonous, thieves, masturbators, falsifiers, etc. They often have a tendency to a morbid piety, a sort of outer religiousness mixed with hypocrisy which is never so marked as at the time of their attacks. The note of their character is therefore irritability.

The intellectual disorders often remain at this stage, either constantly or during the intervals of the attacks, which themselves may be accompanied or followed by short delirious or impulsive attacks. Frequently also epileptics become fully insane.

2. Epileptic Insanity.—We must distinguish in epileptic insanity the insanity of the intervals from the attacks and the insanity of the convulsive crises.

The insanity of the intervals between the attacks is rather rare, as epileptics are not ordinarily in a state of permanent derangement, the insanity is generally remittent or intermittent. This form may occur, nevertheless, and in this case it assumes any form whatever, maniacal or melancholic, sometimes melancholico-maniacal. Its special characters are that it is most frequently accompanied with ideas of persecution, with a tendency to fits of passion, and especially to irresistible impulsions (homicide, suicide), and finally its co-existence with terrifying hallucinations.

The insanity connected with the epileptic attack itself may supervene: A, *before;* B, *during;* and C, *after* the attack.

A.—The *pre-paroxysmal* epileptic insanity may show itself either by maniacal excitement or, on the contrary, by a more or less profound depression, preceding the attack for several days; but it is much more common to see the attack itself preceded by hallucinations, especially of sight and of a terrifying character. These hallucinations may be of spectres, of wheels, of gigantic objects, of wild beasts, and there may be also disagreeable or nauseous odors, or, more rarely, auditory hallucinations. As a rule the hallucination reproduces itself in consecutive attacks. It is very common to see the patients make always the same gesture or pronounce the same words at the moment of falling.

Sometimes the fall occurs at the moment the hallucination appears; if this is not the case the patient has time to perform some insane or strange action, or to give himself up to a more or less noisy delirium.

B.—From the moment the cry is uttered or the attack begins, the patient loses his consciousness, and the characteristic of the insanity which is produced with the epileptic attack is the absolute loss of consciousness and memory that attends it. This is so characteristic a symptom that it is not met with, with the same evidences, in any other form of insanity.

During the attack itself the insanity cannot occur except when the convulsions are lacking and are replaced by an attack of insanity (larvated epilepsy). The attack of insanity in this case commonly consists in a violent spell of mania, lasting for one or for several days, and succeeded by a greater or less degree of prostration, this last sometimes going so far as to stupor. But still oftener the attack is replaced, by a sudden instantaneous impulsion, nearly always the same, to homicide, suicide, arson, exhibition of the genital organs, obscene acts, theft, some wild prank, etc., etc. On each new occasion the convulsions are replaced by an impulse almost invariably the same and producing itself under the same conditions. These cases are commoner than is generally supposed, since epilepsy is not suspected by reason of the absence of the convulsions. When he comes to himself the patient has not the least consciousness of what he has done. Frequently it happens that he starts off during the attack and is astonished to find himself, at the end of a day or two, very far from his home, without knowing how he came there (comitial ambulatory automatism).

C.—The insanity *consecutive* to the attack is of all varieties the most common.

It may manifest itself by a spell of melancholic depression, sometimes going as far as stupor, with prostration, immobility, hebetude, terrifying hallucinations, etc. It may, and this is more often the case, be constituted by a period of excitement, sometimes

very acute, with loquacity, choler, spells of passion, impulsions and furor. Usually there supervenes an attack of acute mania that breaks out suddenly within a longer or shorter period after the convulsions, and is accompanied by a noisy incoherent delirium or sudden impulsions to destructiveness, homicide, or arson. This is the time when epileptics are most dangerous. They have no control of themselves and assume a terrible appearance. With flushed and swollen countenance, staring eyes, and strength multiplied, they smash, destroy, and strike, with a blind fury, everything that is before them.

These spells are not often of long duration; after a few days the symptoms gradually subside, to reappear in subsequent attacks, generally with the same characters and peculiarities.

Epileptic insanity terminates after a longer or shorter time in mental enfeeblement and dementia, which, in some individuals, may assume, more or less closely, the aspect of paralytic dementia in its cachectic period. There are even cases where the diagnosis may, at this stage, present some difficulty.

Diagnosis.—The diagnosis of epileptic insanity is not usually difficult when the mental symptoms accompany the paroxysm. It is sometimes very difficult when the epilepsy is larvated.

The sudden and instantaneous impulsions, the repetition of the same symptoms with identical

peculiarities, and lastly and particularly the absolute unconsciousness of the attack, are characteristic of epileptic insanity.

PROGNOSIS.—Very grave. We are ordinarily without resources in *epilepsia vera.*

TREATMENT.—The treatment of epileptic insanity is the same as that of epilepsy in general. It consists therefore in the prolonged usage of sedatives and antispasmodics.

The chief indication when epilepsy is accompanied with insanity is to sequestrate the patients. On account of the unconscious and generally dangerous impulsion to which they are so often subject, it is, in fact, very imprudent to leave them at liberty. Even in establishments for the insane they almost always require special supervision, and as we are aware the [French] law requires the separation from the other insane of epileptics when they are in excess of a certain number.

HYSTERIA.

(*Hysterical Insanity*).

As in the case of epilepsy we must here examine successively the *hysterical mental state* and hysterical insanity.

1. MENTAL CONDITION OF HYSTERIA.—The future hysterical subjects reveal, in a mental point of view, their peculiar characters at a very early age.

They are, for the most part, young girls of great mental vivacity, excessively precocious, impressionable, coquettish, fond of attention, skilled in deception and falsehood, subject to more or less marked disorders, especially to night terrors, dreams, nightmares, and often also to palpitations and anæmia. Hysteria once established, the mental and moral condition of its subjects is characterized principally, as regards the intellect, by an excessive mobility so that the patients have no spirit of order, no fixed idea, and while able to show on occasion, a cultivated, brilliant and often caustic wit, they are absolutely unfit to follow any serious business. With this there exists a very marked tendency to contradiction and controversy, and also to imitation, and to paradoxical ideas and to opinions that may distinguish them and make them conspicuous. Morally, their condition is the same. Their character is *bizarre*, capricious, fantastic, mobile to excess, their sensibility very lively and out of proportion to occurrences; there are perpetually sudden changes of the feelings and affections, ill-judged enthusiasms; duplicity, falsehood, abominable deceitfulness, sudden and violent propensities to the most perverse and criminal actions, as well as to acts of humanity and bravery of the most praiseworthy kind; they exhibit a constant desire for movement, for being observed, of keeping themselves before their neighbors, the public and the press, and consequently of causing surprises or of weaving the threads of an inex-

tricable romance: such are the chief characters of the moral condition of the hysterical subjects, which may be summed up, that in them everything is mobility and contrast: sentiments, affections, instincts and acts. As regards the sexual tendencies that have been considered a pathognomonic sign of hysteria, it must be admitted that their exaggeration is not constant, and that here also there is mobility and excess, sometimes in one direction, sometimes in another.

All these disturbances which reveal, taken altogether, an absolute lack of equilibrium of the psychic personality in the patients, and which are exaggerated almost always by the events of life, more especially the great processes of the sexual life, such as pregnancy, menstruation, the menopause, may in certain cases end in confirmed insanity.

Hysterical Insanity.—As in epilepsy, we have to distinguish in hysteria the attacks of insanity connected with the paroxysms, and that of the intervals. The first are commonly known under the name of hysterical delirium, the second constitutes hysterical insanity, properly so-called.

A. Hysterical Delirium.—Hysterical delirium, that is, the attack of temporary insanity, connected with the convulsive attack, may appear before, during or after the paroxysm.

When before the attack, it shows itself the few

days preceding by a change of character, by an excessive tendency either to excitement or to depression. As the crisis approaches these phenomena become exaggerated and there is added to them a veritable agitation with confused ideas, incoherent propositions, disordered actions, perhaps torpor, often accompanied with hallucinations of sight and of hearing, or with false tactile sensations which occasionally are unilateral. When the paroxysm commences there is produced a sort of arrest and these symptoms disappear.

During the attack the delirium manifests itself either in the beginning or, rather, toward the close, by a sort of acted dream that begins suddenly and reveals itself in a rapid and changing succession of the most various thoughts uttered aloud in the form of an unconnected monologue of images; this delirium is the result of the multiple hallucinations experienced by the patient at the moment and it causes the gestures, attitudes and acts in accordance with the conceptions that compose it. The crisis over the reason returns.

The hysterical attack itself may be replaced by a more or less acute phase of delirium of the maniacal or melancholic type.

After the paroxysm there is usually a period of excitement with loquacity and noisy laughter, or more often a period of torpor and depression with more or less complete mutism, tears and sobbing.

B. Hysterical Insanity.—Hysterical insanity, proper, is that which occurs in hysterical subjects, apart from the convulsive attacks, under the influence of any exciting cause whatever, either moral or physical, and sometimes without any apparent cause. According to some authorities it is an insanity of degeneracy. (Colin, 1891).

This insanity may show itself under the form of more or less acute attacks of mania or melancholia with their usual symptoms. It is rather more common to see it assume the reasoning type. This marked predilection of hysterical insanity for the reasoning variety explains its principal characteristics, which are: the semi-consciousness of the patients of their condition; the limitation of their delusive conceptions, of whatever nature, erotic, mystic, hypochondriacal, of pride, or of persecution, to the sphere of things possible and realizable, also the mobility of these conceptions; the predominance of the psychic disorders in the passional sphere, in the instinct and in the acts, thus giving rise to affective perversions, to calumnies, to false accusations and denunciations, simulations of suicide or of violation, foolish erotic and platonic affections, fits of passion, and finally to morbid impulsions to theft, incendiarism, suicide and homicide, that always have the earmarks of the hysterical basis on which they are superadded.

Less frequently there is produced an attack of stupor, with mutism, refusal of food, irresistible tendency to suicide, etc.

The diagnosis of hysterical insanity generally offers no difficulties, as, even when the convulsive attacks are lacking, the stigmata of the neurosis are so numerous and varied, that enough of them are always existing to demonstrate the true origin of the mental alienation.

The prognosis is comparatively favorable, particularly when the attacks of insanity are plainly acute. Recovery then takes place, according to Moreau (de Tours), in one-half of the cases. The reasoning type of insanity is much more serious and much more tenacious. It must be remembered, finally, that when hysterical insanity is prolonged, it terminates almost invariably, after a longer or shorter time, in dementia.

As regards treatment, it is much the same as that of hysteria in general, and like that it calls for the employment of the alkaline bromides, opium, morphine, antispasmodics, hydrotherapy, etc. Confinement is often necessary on account of the predominance of the psychic disorders in the sphere of action.

Chorea.

(*Choreic Insanity*).

If disturbances of the intelligence are common in epilepsy and hysteria, they are, on the contrary, much more infrequent in chorea, where they are met with in only two-thirds of the cases according to Marcé. The age and sex of the patients, as well as the

acuteness or intensity of the neurosis, seem not to have any special action on the production of these troubles, for which only an original predisposition appears to be accountable. However this may be, it is necessary to study both the mental condition and the insanity of chorea.

The Mental Condition of Choreics.—In an intellectual point of view the chief disturbances met with in choreic subjects are the defects of memory and attention, the mobility of the ideas, the lack of consistency in the recollections, the mental hebetude. What however is most characteristic in the patients, in this point of view, is the existence of special hallucinations on which Marcé has justly laid stress. These almost always involve vision, very rarely taste, smell, tact, or hearing. They are especially common in females, and rarely appear before fourteen years of age. They occur chiefly in the evening, in the drowsy condition between waking and sleeping, and are very often continued in dreams.

They always are of a painful nature, terrifying, fantastic, and consist in scenes of death, burials, of hell, butcheries, and conflicts, which pass before the subject as in a kaleidoscope (kaleidoscopic hallucinations). They cause the patients much discomfort and arouse a terror of going to sleep that causes them to keep awake and to try to hide themselves under the coverings. When these hallucinations are continued into the dreams they cause awakening,

starting, cries and nightmares. This symptom is sometimes a premonitory sign occurring many days prior to the appearance of the convulsive movements; sometimes, and more commonly, it appears at the time the choreic paroxysms show themselves. It may persist, moreover, for many months. Its disappearance is generally a favorable prognostic; while, on the other hand, its exacerbation may become the starting-point of a true maniacal delirium. Morally, the predominant disturbances in chorea affect the character, which is modified and altered. The majority of the patients become impressionable, emotional, irascible, impatient, disputative, passionate, and even violent. These disorders are more marked in patients whose phonator muscles are involved in the chorea, and who find food for their irritability in the superfluous efforts they make to express themselves distinctly.

Choreic Insanity.—Choreic insanity, which is rather rare, may appear in either the maniacal or the melancholic form.

The maniacal form shows itself in attacks that sometimes appear in the beginning of the disorder, but more often only occur many days after the appearance of the convulsive movements. In either case it may take on the character of acute mania with incoherent delirium, noisy excitement, hoarse inarticulate cries, disconnected words, or it may even present itself under the form of acute febrile

delirium with pulse at 120, hot skin, dry tongue, mumbling, sputation, violent and uncontrollable agitation, and sometimes even choreic convulsions coming on in spells.

The melancholic form sometimes appears as a delusional melancholia, based on already existing hallucinations and consequently accompanied with ideas of persecution and poisoning, anxiety, tendencies to sitiophobia and suicide, sometimes as stuporous melancholia with profound hebetude, fits of weeping, immobility, terrors, and amnesia.

The above description applies especially to ordinary or Sydenham's chorea. But the other forms of chorea may also be attended with psychic disorders (Digoy, *Thèses de Paris*, 1890).

Thus in the rhythmic choreas may be mentioned the chorea of pregnancy which is sometimes associated with a maniacal type of insanity, and especially hereditary, or Huntington's chorea, which very frequently gives rise to a progressively increasing enfeeblement of the mental faculties, accompanied in some cases with melancholia, suicidal ideas, or more often irritability and violence, less frequently ideas of persecution and of grandeur, and hallucinations (Charcot, Clarence King, Peretti, Digoy). Chorea of old age also terminates in dementia in the majority of cases. As to the mental disorders of hemichorea, they are analogous to those of hemiplegic dementia, and have the same cause.

In the rhythmic or systematic choreas the moral

and mental disturbances assume the excessive mobility pathognomonic of the mental condition of hysteria. There may also be a true insanity, mania or melancholia, with visual and auditory hallucinations and also hallucination of the general sensibility, usually temporary and following the attacks but susceptible also of being continued during the intervals and then assuming the reasoning type of hysterical insanity.

The pseudo-choreas such as the *tic de Salaam* which belongs rather to epilepsy and is frequently seen in the lower grades of degeneracy, and the convulsive tics (Gilles de la Tourette's disease) already alluded to under the head of neurasthenia, need only be mentioned here.

The peculiar convulsions that accompany these various conditions of insanity leave no doubt as to their nature, hence the diagnosis of choreic insanity presents usually no difficulties.

The prognosis is variable. While not serious when the psychic troubles do not exceed those we have indicated as the mental condition of chorea, or when the insanity is confined to an attack of acute mania or mild melancholia, it becomes very grave in the stuporous form or in that of acute delirium.

The treatment is that of the neurosis, and therefore consists chiefly in cold affusions, sulphurated baths, valerian and antispasmodics, prolonged warm baths, opium in increasing doses, strychnia, iron and tonics. In case of acute excitement, sequestration is, moreover, almost always necessary.

Paralysis Agitans.

M. Ball, and still more recently other authors, Parant, Bergerio, Roger, and others, have given especial attention to the mental troubles attending paralysis agitans. It results from their studies that while nearly all the subjects of this ailment have more or less marked disturbances of the ideas, character and feelings, these may in some cases attain to the dimensions of real insanity. This, in such cases, appears usually under the melancholic form, either with the symptoms of delusional melancholia accompanied with anxiety, ideas of persecution and poisoning, and with hallucinations, or with those of stupor; the insanity is not permanent, and usually follows the changes of the malady itself, generally disappearing whenever the tremor ceases. It may be added that the majority of the cases of paralysis agitans terminate in dementia.

Exophthalmic Goitre.

It has long been known that sufferers from exophthalmic goitre are erratic, irritable, changeable and unequal in their characters and mode of life.

In a very interesting lecture recently published (*Bull. médical*, 1890), Professor Peter has called special attention to a symptom that approaches to being a capital and pathognomonic one in this disease: a morbid, neuropathic emotivity, revealing itself not only in the most intense psychic sensibil-

ity and unrest, but also by very marked somatic phenomena in the domain of the great sympathetic; palpitations, choking sensations, precordial pain, flushes of heat and pallor, spells of sweating and of diarrhœa, etc., etc. It is easy to see from this short enumeration that the predominating neurotic symptoms in Basedow's disease very closely resemble those of neurasthenia. In fact I believe that neurasthenia, chiefly in its emotional form, accompanies many cases of exophthalmic goitre; and I have found, on the other hand, that, in a large number of obsessional neurasthenias, the disorder commenced at puberty with palpitations, and that it was later complicated with swelling of the neck and prominence of the eyes, recalling more or less clearly the malady of Basedow. These facts show that an intimate relation exists between these two diseases, and it will be of interest to follow out further the investigations as to this point.

While exophthalmic goitre is never, so to speak, without some mental and moral disturbances, it is accompanied in some cases with actual insanity.

This insanity, as has been remarked by M. Raymond Martin (*Thèses de Paris*, 1890), may supervene either after, or with, or even before the appearance of the exophthalmic goitre.

It follows from numerous facts published of late years by Savage, Meynert, Charcot, Rendu, Ballet, Joffroy, Debove, and Landouzy, and summed up by M. Martin in his thesis, that the types of insanity

observed in Basedow's disease are rather variable. Acute maniacal conditions seem nevertheless to predominate; but we also meet with hypochondriacal or anxious melancholia, and especially with vaguely systematized delusions of persecution or mysticism, with almost constant visual and auditory hallucinations such as are observed in hysteria.

Exophthalmic goitre is, in fact, very frequently connected with this neurosis; which makes it impossible to state precisely to which of the two affections the insanity is to be attributed (*Soc. méd. des hôpitaux*, 1890).

As M. Martin well says, in these mixtures it is hard to state the part that is played by one or the other morbid condition. Moreover, exophthalmic goitre, like hysteria, has its origin in a neuropathic heredity, and it is not demonstrated, as was said above in speaking of hysteria, that there are not direct relations existing between these different expressions of the same diathesis.

Chapter XIII.

INSANITIES CONNECTED WITH INTOXICATIONS.

(Toxic Insanities).

I. ALCOHOLISM.

(Inebriety, Alcoholic Insanity, Alcoholic Dementia, Alcoholic Pseudo-General Paralysis).

The term *alcoholism*, originated in 1856 by Magnus Huss, is applied to the whole range of disorders caused by poisoning by alcoholic liquors. According as the toxic action is sudden or prolonged, the alcoholism is called acute or chronic.

The psychic disorders of alcoholism, the only ones that will occupy us here, may show themselves in either acute or chronic alcoholism. We find them occurring by preference, in subjects who are, by heredity, profession, or conditions of debility, predisposed to cerebral or vesanic disorders and who are given to immoderate use of alcohols of bad quality or liquor of absinthe (absinthism).

The most of the states of mental alienation may be met with in alcoholism, from ordinary drunkenness, the incomplete and temporary loss of reason, to simple dementia and paralytic dementia. Those that are most common, however, are acute generalized insanities of the maniacal or melancholic type.

On each of these conditions of insanity certain special characters, more or less striking, are impressed by alcoholism, which compel us to pass them in review. We will therefore describe successively: (1) drunkenness; (2) acute alcoholic insanity (maniacal or melancholic) with its subacute and hyperacute varieties; (3) simple alcoholic dementia; (4) alcoholic pseudo-general paralysis.

1.—Inebriety.

Inebriety comprises three distinct periods. The first is that of excitation; it is characterized by animation of the face and expression, increase of the pulse, the perspiration, the urinary secretions and especially by a feeling of well being, with loquacity and expansive tendencies. Those who are, as they say, merry in their liquor, are full of life and spirit, of gaiety and movement; those who are maudlin in their cups are depressed, inclined to relate their misfortunes; weep and lament without motive; some become benevolent, tender, affectionate, much inclined to erotic manifestations; others become irascible, easily disturbed and have a marked tendency to quarrel and come to blows. At this stage the man still is semi-conscious of his condition and retains the power of self-control, at least to a certain extent. But there exists already a sort of moral anæsthesia; nothing shocks him.

The second stage or drunken period is characterized by more pronounced disturbances. There is

no longer merely exaltation, but also perturbation of the intelligence; the ideas are confused, unconsecutive and excessively variable; the language is incoherent and disconnected; the tongue is thick, the speech embarrassed, sexual power usually abolished, the walk vacillating, and the sensibility much obtunded. Simultaneously there exist sensory disturbances, such as confusion of vision, diplopia, tinnitus, illusions of taste and general sensibility, and occasionally true delusions with impulsions.

The third period is the comatose stage. It is marked by long and profound sleep, with profuse sweating, during which the individual is exhausted, inert and completely unconscious. On awaking there is more or less pronounced general *malaise*, an uncomfortable feeling of lassitude, a feverish thirst, great dryness of the mouth, and severe headache.

Besides this simple inebriety as we call it, there are other more serious forms, notably the convulsive form, described by Percy, and amnesic inebriety.

2.—Alcoholic Insanity.

Alcoholic insanity may present itself under either the maniacal or the melancholic form.

As regards its intensity, it is met with in three different degrees: a.—the subacute attack; b.—the acute attack, properly so-called; c.—the hyperacute attack. Whatever the intensity, the attack of alcoholic insanity is liable to occur either in acute alco-

holism following a sudden and transient intoxication, or at any moment whatever in the course of a chronic poisoning. Its appearance may follow great excesses (*delirium a potu nimio*) as well as, on the other hand, the suppression of habitual stimulation (*delirium a potu suspenso*). It is also a common thing to see the attack of insanity occur suddenly as the effect of a moral or physical shock (moral or physical traumatism), and, especially of an intercurrent disorder. Thus alcoholic delirium develops in a pneumonia for example, or after surgical operations (nervous delirium of the wounded). Any trifle is enough in individuals intoxicated and saturated with alcohol, to call up or awaken the cerebral disorder.

A. Subacute Insanity.—The most frequent form of insanity in alcoholism is the subacute type that ordinarily occurs as a transient episode in the course of chronic alcoholic poisoning. Its manifestation is almost always of the melancholic type.

The attack usually begins with disturbances of sleep which become unsatisfactory and troubled with dreams. Lasègue, whose description I reproduce, says that the subject of alcoholism, before becoming insane begins by sleeping ill, and that his delirium is only a waking dream of the day that follows, as a consequence, a sleeping dream of the night, and continues not only in a psychic sense, but also chronologically. The dreams of these subjects are especially dreams of action, drawn from familiar sub-

jects of events of the time, dramatic displays, and in which hallucinations of sight play the principal part. A time arrives when these dreams prolong themselves into the waking moments, and this it is that constitutes the alcoholic delirium. This painful change from sleeping to waking follows an excessive agitation preventing, like a nightmare pushed to extremes, the possibility of sleep, or some external excitation, or any cause whatever. The passage from dormant to waking delirium is made without transition, the insanity does not follow some distance after the dream, it becomes simply its intensification and maximum. The condition as regards the nature of the abnormal phenomena is the same, the delusions are the continuation of the dreams. The same fantastic combinations and thrilling situations, the same strange or sinister adventures, the same disordered and changing scenes occur. In the alcoholic insanity, as in the dream, visual hallucinations, that usually assume a terrifying character and consist mainly in visions of animals, thieves, assassins, battles, fires, deaths, etc., play a chief part and to the almost complete exclusion of any others. Auditory hallucinations, in fact, are reduced, as a rule, to merely confused impressions, sounds of steps or blows, muffled cries and a few interjected phrases. On the other hand, like all dreamers, the alcoholic subject is constantly undergoing some physical and moral change, during his attack. His speeches are lengthy but made up of detached phrases without logical con-

nection. Mere facts without reflections and still less of wonder and criticism. What is past is past, and that is all. A last peculiarity common to dreams and alcoholic delirium is the possibility of these conditions being suddenly and temporarily suppressed by shaking the dreamer or the patient and accompanying the act with some strong expression.

Basing himself on these peculiarities Lasègue is able to say that subacute alcoholic insanity is not an insanity but a dream.

With these psychic symptoms, to which must be added the rather frequent tendency to suicide, are joined the habitual bodily symptoms of alcoholism, such as generalized tremor, cramps, formications, dyspeptic disorders, analgesia or hyperæsthesia of the limbs, convulsive hysteriform or epileptiform accidents, etc., etc.

The subacute form of alcoholic insanity is of variable but generally of short duration, at least when the patient stops drinking. It is rare that there is not an amelioration after five or six days; little by little the dream disappears and the reality returns. Just as the loss of sleep marked the beginning of the disorder, so its return marks its termination.

B. Acute Insanity.—Acute alcoholic insanity occurs under the same conditions as the subacute form, and it manifests itself sometimes under the form of melancholia, sometimes and more often, that of mania. The melancholic variety differs from that

of the subacute type, only in its higher degree of intensity. It is preceded by prodromata such as feelings of malaise, oppression, gastric uneasiness, cephalalgia; the insomnia is more complete, the hallucinations more terrifying, the fearfulness becomes a genuine panophobia, and the patients believe themselves surrounded by enemies, ferocious beasts, flames, cadavers, they fly in affright and are the prey of unspeakable terror. There is added, moreover, to this condition, a true delirium that revolves, as a rule, around ideas of hypochondria and persecution especially. The victim of alcoholism believes he is full of worms, rotten, that he has no stomach or head, that he is dead, that people are mocking him, his wife deceives him, that it is sought to poison him, that persons of suspicious mien follow him in the streets, that they wish to make way with him, accuse him of theft, of murder, of pæderasty, they come to his house to arrest him, to shoot him, etc., etc. It is in this form and when such ideas of persecution exist that we can recognize more or less perfect hallucinations of hearing in the patient. A tendency to suicide is almost the rule, and often shows itself by a sudden unpremeditated attempt. There is here, as in all attacks of alcoholism, a very marked tremor of the extremities, cramps, formications, partial anæsthesias or hyperæsthesias, various hallucinations of taste or smell, and, lastly, more or less pronounced gastric troubles.

The maniacal form is nothing else than what is

commonly known as delirium tremens. It begins with insomnia, incoherence of ideas, and various general phenomena. Excitement soon appears and rapidly increases. The face is red, swollen and congested, the eyes glittering, the pulse frequent, the temperature elevated, the skin burning and covered with sweat, the thirst excessive. Hallucinations and more especially illusions supervene; the patients believe they recognize those about them; they take a window for a door, an object for an animal, a piece of furniture for a person; they find a new taste and odor to what they eat or drink, and, lastly, they have fantastic visions, especially of animals, but these are less terrifying than they are in the melancholic form, and rather frequently they consist in lewd representations and obscene tableaux that unroll themselves before the eyes of the patient. In a very short time the agitation is at its height and the individual cries, vociferates, walks and runs without cessation.

The tremor is so excessive and so generalized that it has given its name to this variety of alcoholic insanity. The whole body is in vibration, as is readily demonstrated by placing the hands on the patient's shoulders. The hands and arms are agitated with an extended uncontrollable motion, the whole head oscillates visibly, the tongue is so tremulous that it is drawn convulsively out of the mouth; and, finally, the tremor may sometimes extend to the lips and vocal muscles so as to cause a certain embarrass-

ment of speech. There may also be an apparent inequality of the pupils, which is rather common, as we are aware, in chronic alcoholism.

Finally, we may mention various more or less constant disorders, such as profuse perspirations, accelerated pulse, epileptiform attacks, and lastly the usual disturbances of alcoholic intoxication in the organic functions. As to the temperature, it is not sensibly modified, and is rather diminished than increased, especially in the periphery.

Recovery is the usual termination of the attack of acute alcoholic insanity, and it takes place rather rapidly in from eight to fifteen days, from the effect of the simple suppression of the habitual stimulation; it is evidenced by the return of sleep and the progressive diminution of the symptoms of the attack.

C. Hyperacute Insanity.—In the hyperacute alcoholic insanity the attack attains a very high degree of intensity. In the melancholic form there is an actual condition of stupor. Immovable, stupid, incapable of answering or moving, with terrified visage, and wild eyes, the patients are plunged into the most profound prostration; they seem to be taking part in horrible spectacles, the sight of which terrifies them, and they only arouse themselves out of this state of prostration to make some sudden attempt at suicide. It is in this form in particular, that they retain only an extremely vague idea of what has taken place during their attack, and all

they have seen, heard, or done, even their attempts at suicide, seems to them like a confused and remote dream. Nevertheless these stuporous attacks usually disappear and end in recovery, but with a certain slowness and often leaving behind them various disorders, especially a state of dullness and intellectual obtusion.

In the maniacal form the agitation reaches its maximum and exhibits all the symptoms of acute delirium, from which, moreover, it derives its name (alcoholic acute delirium). Analogous in all respects to simple acute delirium, the attack presents, like it, an elevation of temperature, which may attain 108 or 109 degrees or even more (febrile delirium tremens), typhoid symptoms, profuse perspiration, fuliginosities, *subsultus* of the tendons, smallness of the pulse, convulsions, adynamia, etc. Like it also, it usually terminates fatally, and this occurs either suddenly from syncope, or in coma.

The cerebral lesions met with most frequently in acute attacks of alcoholic insanity, and apart from the habitual lesions of chronic alcoholism, such as arterial atheroma and fatty degeneration of the vessels, are hemorrhagic pachymeningitis, thickening of the membranes and their serous infiltrations, sanguine suffusions, adhesions of the meninges to the cortex, more or less marked coloration of the gray matter, punctation of the white substance, serous effusion in the lateral ventricles, and lastly, hemorrhagic foci in various regions, especially in the territory of the Sylvian artery of the left side.

The diagnosis, generally easy, may present some difficulty, in cases, for example, of an acute attack of the melancholic type and with ideas of persecution. We have seen that these cases are frequently mistaken for incipient delusions of persecution, and *vice versa*. Here, nevertheless, the ideas of persecution are more confused and more terrifying, and are accompanied with a panophobia that does not exist in partial insanity.

As to the alcoholic stupor and alcoholic acute delirium, they differ from the simple forms of these disorders only in their history and the concomitant characters of alcoholic intoxication.

The treatment of acute alcoholic insanity, is blended with the ordinary treatment of alcoholism, and, like it, consists essentially in the suppression of the customary stimulants. It is needful, nevertheless, to reach this suppression by easy stages, and to gradually wean the patient from alcohol by daily diminution of the dose. Insomnia being the most constant result of alcoholism, the chief indication is to re-establish sleep; and for this reason sedatives, and chloral, especially in full doses, combined or not with morphine (Lancereaux), are the therapeutic agents that have the best effect, particularly in the excited forms. Strychnia has also been recently recommended for the accidents of acute alcoholism.

Many authors, notably Lancereaux (*Bulletin médical*, 1891), have tried to differentiate the alco-

holism according to the nature of the drink ingested (wine, rum, cognac, and eaux-de-vie, absinthe, *vulnéraire*, bitters, aperatives, etc.) The distinction is less psychical than physical and consists either in the great frequency of convulsive accidents (absinthism), or in the different types of disorder of sensibility, analgesic in the intoxication from wine, and hyperalgesic in that from the essences.

M. Magnan, and his pupil, Legrain, have also described separately the alcoholism of hereditary predisposed subjects and that of degenerates.

3.—Alcoholic Dementia.

After chronic alcoholism has continued a certain time it, at last, causes a progressive decay of the individual, both in an intellectual and moral and a physical point of view. In the physical sphere the tremor, the dyspnœa, the alphonia, the epileptiform convulsions, the thickness of the tongue, the muscular weakness, the anæsthesia and hyperæsthesia, the oculo-pupillary disorders, the fatty degenerations, loss of appetite, bilious vomiting, circulatory troubles, the congestion of the liver, etc., etc., are the most important of all symptoms.

As to the mental enfeeblement, it begins slowly and like all the conditions of dementia, first manifests itself by the progressive failure of memory and other faculties and also by indifference and loss of the sentiments and the affections. The special characteristic of this dementia is the almost invariable insomnia

that accompanies it, and the more or less marked hallucinations that may complicate it either continuously or in an intermittent fashion.

By a process of gradual degradation the patients reach the untidy (*gâteux*) stage and end in marasmus, being generally carried off by an apoplectic attack. In some cases they recall more and more the general aspect of paralytic dementia, so that the diagnosis is sometimes rendered difficult. The tremor, the hallucinations, the character of the speech embarrassment, and the co-existence of all the other signs of the alcoholic cachexia, nevertheless permit generally the distinction of these two conditions of dementia from each other.

At the autopsy we find the lesions of alcoholism mentioned in the description of the acute form of alcoholic insanity, to which is sometimes added a more or less pronounced atrophy of the cerebrum.

4.—Alcoholic General Paralysis. Alcoholic Pseudo-General Paralysis.

Up to within recent years alcoholism was considered as one of the most important causes of general paralysis. Nasse, in 1870, called attention to cases of alcoholism with all the mental and bodily symptoms of general paralysis, but differing especially in their curability under the influence of rest and the deprivation from alcoholic drinks. Like Hoffmann, who had called them *pseudo-paralysis*, he proposed to give these cases the name of *pseudo-paral-*

ysis e potu. The memoir and the ideas of the German author were rather overlooked, and we continued to make no distinction between alcoholic and ordinary general paralysis, or rather to continue to admit the preponderating influence of alcoholism in the production of this affection.

M. Moreau, in 1881, without accepting completely the idea of Nasse, sought to show that alcoholic general paralysis has a peculiar course, characterized by the frequency and distinctness of its remissions. This difference, nevertheless, although important, does not seem sufficient by itself alone to prove that there does not really exist an alcoholic general paralysis. Having already studied the preceding year the relations of saturnine encephalopathy and progressive general paralysis, and having demonstrated, contrary to the received opinion, that lead poisoning usually causes, not a true general paralysis, but a pseudo form essentially curable, I was struck, at the time, with the analogy existing between the cases of so-called alcoholic general paralysis and those I had studied under the name of saturnine pseudo-general paralysis. I was therefore led to accept fully the opinion of Nasse and to admit the existence of an alcoholic pseudo-general paralysis, in regard to which I published some considerations which were soon reproduced and developed in the thesis of M. Lacaille.

Since then a number of cases have been published and many authors have admitted the existence of an

alcoholic pseudo-general paralysis. Among these should be cited M. Ball, who, by taking up in one of his clinical lectures the subject of alcoholic pseudo-general paralysis, has, so to speak, officially declared its existence.

The question of the relations of general paralysis and alcoholism was agitated anew at a late Congress of Alienists (1891) by a remarkable report of M. Rousset. Various opinions were expressed, but it seemed to be generally admitted that alcoholic paralysis, whether called pseudo-general paralysis or not, presented special features.

The pseudo-general paralyses, syphilitic, saturnine, and alcoholic, have characters in common, and the two last especially present the same clinical physiognomy. They differ chiefly from general paralysis in that they are essentially curable, or at least susceptible of amelioration under appropriate treatment.

In a symptomatic point of view their analogy with true general paralysis is nearly perfect, and they differ from it only in a few peculiarities without real importance.

The special characters of alcoholic general paralysis, according to my own observations and the memoir of M. Lacaille, are as follows:

Alcoholic pseudo-general paralysis always is found only in clearly established cases of cerebral alcoholism, which is not usually true of the genuine form. It begins in them in two different ways. In some

cases it is announced and preceded by apoplectiform, or more particularly, epileptiform attacks, which differ in certain respects from those observed in the beginning of general paralysis. At other times, and this is most frequently the case, the pseudo-paralysis is consecutive to a subacute attack of alcoholism. It is in the course of this attack and on account of the insane acts caused by it, that the patients are sequestrated, but, and this is a remarkable fact, they do not, at this time present any of the symptoms of paresis, and these latter only appear when the subacute attack is over, or is on the point of disappearing. In all cases, and this is important to note, instead of being insensibly progressive like true general paralysis, the symptoms in pseudo-paralysis attain at once their greatest intensity.

Symptomatically alcoholic pseudo-general paralysis differs from general paralysis in two ways: (1) it has symptoms peculiar to itself; (2) the symptoms common to it and general paralysis present in the former some special features.

Its own peculiar symptoms are no other than those that belong to chronic alcoholism and these are too well known to require their recital here. We may add that local paralytic accidents, such as permanent hemiplegia and aphasia, are more frequent and more persistent than in true general paralysis.

The following are the principal differences in the symptoms they share in common:

Contrary to what occurrs in true general paralysis,

the inequality of the pupils is scarcely ever lacking in alcoholic pseudo-general paralysis. In it, moreover, the pupils are invariably very paretic, and in some cases absolutely immobile, especially the one that is most dilated. Besides this the pupillary aperture is very often misshapen, oval, notched on its borders; the coloration of the pupil loses its sparkle and transparency; it is usually dull and cloudy; and lastly, the visual acuteness is ordinarily diminished. These last peculiarities are exceptional in general paralysis.

On the part of the intellect, aside from the delusional and hallucinatory manifestations that usually mark the beginning of their malady, and which may, moreover, reappear at any moment of its progress under the influence of various causes, the pseudo-paralytics are specially characterized, not by a progressive enfeeblement of the mind, such as occurs in general paralysis, but by a false dementia, an intellectual obtusion and stupidity, sometimes carried to the extreme, by an actual brutalization.

That, however, which most particularly distinguishes alcoholic pseudo-general paralysis is its course. While in true general paralysis, which has for this reason been called *progressive*, the symptoms gradually become more and more aggravated and progress almost invariably to the fatal termination; in the pseudo-paralysis, on the other hand, their course is regressive, that is to say, that however marked they may have been in the beginning, they gradually

diminish and may disappear entirely in a comparatively short time. It is a remarkable fact, moreover, that the disappearance of these symptoms follows an altogether different course from that observed in the remissions of general paralysis. While in the latter the pupillary inequality is one of the first symptoms to be effaced, while the embarrassment of speech always remains to a greater or less degree, in the pseudo-general paralysis, on the contrary, the inequality of the pupils is the most fixed and durable of all the symptoms, while the speech disturbance diminishes from the beginning of the amelioration.

In a prognostic point of view we may say that general paralysis never, or only very exceptionally, ends in recovery, while pseudo-general paralysis habitually does so. It is also a common thing to see alcoholic pseudo-paralysis reproduced repeatedly after new excesses, and each time with recovery, until the patient finally falls into alcoholic dementia, or is carried off by an apoplectic stroke. M. Ball and I have reported the case of a patient who recovered sixteen times in thirteen years from alcoholic pseudo-general paralysis.

As regards the lesions of alcoholic pseudo-general paralysis, the one fact that the disease may occur and pass off many times is sufficient to prove *a priori* that they must be purely functional. I have, in fact, published the case of an alcoholic paralytic who died from an accidental cause, in whom we found at the autopsy none of the usual lesions of

general paralysis. The changes commonly met with in the brain are those already noticed of chronic alcoholism, especially atheroma of the cerebral arteries (arterio-sclerosis), and circumscribed lesions such as hemorrhagic pachymeningitis.

The treatment of alcoholic pseudo-general paralysis offers nothing absolutely special. It consists in aiding the tendency to recovery by the removal of the customary stimulants, and appropriate medication, and especially the endeavor, by moral hygienic, and therapeutic agencies, to prevent the relapses so frequent in these cases. It is for this purpose in particular and for the patients, that the inebriate asylums, half hospitals and half homes, such as exist in England, may be of real value.

II.—SATURNISM.

(Saturnine Insanity, Saturnine Dementia, Saturnine Pseudo-General Paralysis).

Saturnism is the result of poisoning by lead, as alcoholism is that of poisoning by alcohol. But while the mental disorders due to alcoholism have been the subjects of many interesting memoirs, very little has been done as regards *saturnine* insanity, probably because it is rarer and less frequently observed. Apart indeed from the relations of lead poisoning to general paralysis, the study of which has been begun by several authors, there are still, as regards the insanity caused by lead, only some

vague references left us by Tanquerel des Planches and Grisolle.

If it is correct to say that all the toxic insanities present great resemblances to each other, it is needful to recognize that these analogies should not be pushed too far as regards the mental disturbances of alcoholism and lead poisoning. Errors are often committed in this regard. When the saturnine cases come to the asylums, suffering from nightmares, terrifying hallucinations, and ideas of persecution with also very marked tremor of the limbs, the physician, accustomed to look upon these morbid phenomena as pathognomonic, does not hesitate to consider them from the beginning as suffering from the combined action of alcohol and lead. Thus the usual form of medical certificate in these cases is as follows: "Alcoholic and saturnine insanity." Here is a confusion that it is important to notice, since these patients have often been guilty of no alcoholic excess and all their symptoms are imputable to lead intoxication.

This enables us to dispense with any long details of the mental troubles of saturnism, which fall into the same divisions and answer the same description as those of alcoholism.

There are therefore: (1) a saturnine insanity, maniacal or melancholic, with its subacute, acute, and hyperacute varities; (2) a saturnine dementia; and (3) a saturnine pseudo-general paralysis. Strictly speaking, another still lighter form, may be

admitted, lead inebriety, more or less analogous to alcoholic drunkenness.

1.—Saturnine Insanity.

a. Subacute Insanity.—Subacute attacks of insanity in saturnism, are rarer than the acute variety, contrary to the rule in alcoholism. Moreover, as in the latter, the subacute attack almost always assumes the melancholic form, and is characterized by the same symptoms, especially by insomnia, terrifying hallucinations of sight, nightmares, suicidal tendency, generalized tremor, etc. The only difference consists in the co-existence of the usual stigmata of saturnine intoxication, and notably the line of Burton, which enable us to make the diagnosis. Still this diagnosis is made more difficult when the patient, as often happens, is at once charged with lead and alcohol.

b. Acute Insanity.—Acute saturnine insanity almost always manifests itself under the maniacal form. Usually it is announced by prodromata, such as cephalalgia, depression, somnolence, acceleration of the pulse, vertigo, tremor, and, in some cases, albuminuria. At other times its onset is abrupt. Like the alcoholic attack it may come on after a rapid intoxication, or from the suppression of an habitual poison, sometimes, finally, from the effect of a physical or moral traumatism.

However this may be, the first symptom is disturbance of sleep, which becomes agitated and full

of dreams. Little by little excitement appears and increases, and delirium supervenes, accompanied with illusions and more or less terrifying visual hallucinations; a very marked tremor appears; the patient's face is flushed and swollen and he gives utterance to cries, acts with violence, utters obscenities; in short, he is an absolute picture of the alcoholic subject in an acute attack of insanity from drink.

The duration of these attacks is usually short, hardly extending beyond one or two weeks; recovery is the most frequent termination, and shows itself by the restoration of sleep and the progressive disappearance of the symptoms. Sometimes, nevertheless, the patient may die suddenly during the attack.

c. Hyperacute Insanity.—Hyperacute insanity is a little more rare in saturnine intoxication, and when it occurs it nearly always presents itself in the melancholic, that is, the stuporous form. As in the corresponding form of alcoholic insanity, the patients are stupid, immobile, in a condition of fixedness and complete stupor from which they arouse themselves only to make some attempt at suicide. This form is serious, and when it does not cause death, it always leaves behind it an obtusion of the intelligence that may persist for a long time.

The lesions found at the autopsy do not generally account for the symptoms observed. At most we find in some cases an anæmia of the brain with more

or less pronounced œdema. It is rare that we can discover traces of lead in the brain, especially in acute intoxication.

2.—Saturnine Dementia.

Just as long-continued alcoholic intoxication will produce at length a progressive physical and moral decay, so slow poisoning by lead may give rise to an analogous degradation, traversed or not as in alcoholism by more or less acute delirious or convulsive episodes. It is to be remarked that in chronic saturnism the dementia is precocious and more profound, the cachexia more marked, the local paralysis and epileptic or eclamptic convulsions more frequent, the marasmus and the untidy state more rapid, and that after a time of varying length the patients either succumb from the progress of the bodily cachexia or are carried off by a convulsive attack.

It is usual in this form to encounter more evident alterations, such as softening of the brain, cerebral atrophy, presence of lead in the nervous centres, etc.

3.—Saturnine Pseudo-General Paralysis.

Tanquerel des Planches had already noted the embarrassment of speech in the saturnine encephalopathy, but it was not until 1851 that M. Delasiauve showed that certain forms of this encephalopathy might so closely resemble general paralysis as to simulate that disorder, whence the name of *saturn-*

ine pseudo-general paralysis given to them by him. Nevertheless, a year later, M. Delasiauve seemed to modify his opinion and admitted the existence of a true saturnine general paralysis.

In 1857 the work of M. Devouges appeared, sanctioning the existence of a saturnine general paralysis identical with the ordinary form.

Since that time the question has not been advanced, and, except in a few scattered published observations, the ideas of M. Devouges have been generally accepted.

Having been struck by the surprising recoveries of numerous cases of saturnine general paralysis in my own observation, I published in 1880, a paper, in which, supporting my views on my own experience, I tried to show that saturnine general paralysis did not really merit the title, and that it was in reality only a pseudo-general paralysis of which I sketched the principal features. From that time the idea of saturnine pseudo-paralysis has gained ground simultaneously with those of syphilitic and alcoholic pseudo-general paralysis, and some authors have published accounts of cases.

Like alcoholic pseudo-paresis the saturnine pseudo-general paralysis most generally develops in the course, or rather as the result, of a subacute attack of saturnine insanity. Contrary to what occurs in true general paralysis, its beginning is abrupt, it breaks out noisily and reaches its apogee at once. As soon as the hallucinatory and delirious symptoms

that constitute the lead intoxication have passed off, the pseudo-general paralysis appears, not with the mild symptoms of the period of invasion, but with the gravest characters of the full-fledged disorder. In most cases the patients are plunged from the beginning into the most profound cachectic marasmus. They are untidy, paralyzed, demented, incapable of making a movement or uttering a syllable, and seem to be on the point of succumbing. At the same time they present the usual symptoms of lead intoxication, such as the blue line on the gums, clayey complexion, cephalalgia, dizziness, cramps, various neuralgias, partial anæsthesias or hyperæsthesias, arthropathies, paralysis, epileptic or eclamptic disorders, etc.

The symptoms common to true general paralysis and saturnine pseudo-paralysis, present in this last some special shades of difference. Thus the pupillary inequality is often lacking, the tremor, while more intermittent, is also more marked and spasmodic, and the embarrassment of speech is occasionally so marked at the beginning that the voice is unintelligible. The patients, as has been stated, are often untidy and completely paralyzed on their first admission to the asylum. Mentally, besides the delirious and hallucinatory manifestations we have described and which speedily disappear, they show a type of depression very different from that of general paralysis. While, in ordinary paretics the enfeeblement of the intelligence, at first slight, follows a progressive course and finally terminates in complete de-

mentia, in the case of saturnine pseudo-paralytics, this enfeeblement, which appears at once in its greatest intensity, is much more apparent than real. The patients seem often from the very beginning to be suffering from a complete abolition of the intellect, they appear absolutely stupid, disconnected in their words, hardly able to speak their own names. Nevertheless there is no abolition, but merely a suspension of their faculties, an obtusion pushed to its extreme limits. Thus, after sometimes a very short lapse of time, the intelligence reappears, and one is surprised at being able to witness the rapid awakening of the patients who appeared to be fated to an incurable dementia. As regards the delirium, gay or otherwise, of saturnine pseudo-general paralysis, there is little of special importance to note. Nevertheless we may say that it is less apparent than in general paralysis, as the obtunding of the faculties that dominates the scene does not favor its explosion, but that, on the other hand, it is more frequently accompanied by sensory disorders. Lastly, it may be said that, as a rule, the saturnine patient, at least when not in a torpid state, is querulous, coarse and troublesome, while the paralytic is, at least superficially, pleasant, humane, generous and benevolent.

It is especially as regards its course and prognosis, that saturnine pseudo-paralysis is distinct from true general paralysis. In fact, however little different the symptoms may have been, they quickly improve and finally disappear as the poison is eliminated

from the system by the natural excretions, which fact makes this form an essentially curable one. It should be stated, however, that, like alcoholic pseudo-paralysis, it has a decided tendency to recur under the influence of the same causes.

It is only in this last event, and after many successive relapses, that the patients become incurable and fall into a condition of cachectic dementia, during which they are generally carried off by a comatose or convulsive attack. We find then at the autopsy the usual lesions of saturnine dementia, and sometimes also some non-cortical meningeal lesions.

The treatment consists chiefly in favoring the elimination of the poison. It is necessary therefore to use sulphur baths, and iodide of potash combined with the bromides. It is necessary, in order to prevent a return of the symptoms, to formally pledge the patient to change his occupation.

III.—MORPHINISM.

(Morphinic Insanity).

Morphinism is the sum of the accidents due to poisoning by morphine. It may be medical, that is, the result of a more or less prolonged medication with morphine, but almost always it succeeds morphinomania, that is, the passion of the patient for morphine.

There is no need here of giving the history of

morphinism or of morphinomania or of explaining how subcutaneous injections of morphine, recommended by a physician to calm the sufferings of his patients, have become in a short time the fashionable poison in certain classes of society, among whom they are already making the greatest havoc. What is of interest for us to know is that, like all other toxic agents, morphine is capable of provoking mental disorders of various kinds, and the history of certain recent criminal trials shows that the medico-legal chapter of morphinism has been opened.

A number of works have already appeared on morphinism and morphinomania, but the course of lectures of M. Ball on this subject was one of the earliest studies that particularly discussed the psychic disorders of this intoxication. Since its appearance the question has been treated fully and at length in many works (Jennings, Pichon, Guimbail, etc.)

In a general way the insanity caused by morphinomania resembles in all points all the other toxic insanities, and like them manifests itself in more or less acute attacks of mania or melancholia, with insomnia, terrifying visual hallucinations, tremors, etc. Morphinomania, however, causes insanity more rarely than the other intoxications, and usually gives rise to intellectual disorders that confine themselves to the domain of *semi-alienation.*

It is useful, therefore, to make a distinction between the accidents due to the abuse of morphine and those caused by its suppression, as both may be the origin

of mental disorder, which, as we have seen, was also the case with alcohol and lead.

1. *Effects of Abuse.*—The first effects of the absorption of the poison are generally agreeable, and this period of stimulation may last, according to the cases, from a few weeks to some years. Dating from the moment that the passion becomes tyrannical, or the morphine *habitué* becomes a morphinomaniac, the disorders appear more or less rapidly, and the following intellectual and moral symptoms may present themselves:

The first effect, as has been said, is a feeling of well-being and happiness—a sort of stimulation of the faculties. Soon, however, the will becomes paralyzed and the patient has not enough energy to rouse himself from his torpor and renounce his habit. Often indeed he lacks the force to leave his couch (*manie lectuaire*). Memory and judgment do not seem seriously affected, but they may show a certain degree of obtusion. The moral sense is nearly always profoundly blunted; the morphinomaniacs commit indelicate acts, sometimes also misdemeanors or actual crimes. Finally, their instincts may be depraved, and they frequently indulge in all sorts of excesses, even to debauchery that is actually pathological. Sleep is always disordered and sometimes almost abolished; at the most there is then produced a tendency to diurnal somnolence, but not supplying the needed rest. When all these disturbances attain a certain degree of intensity, there are usually added some

more serious symptoms such as panic terrors, hallucinations, mainly visual, but possibly also of taste and smell. Occasionally there is a true melancholic state, with prostration, delusions of persecution, suicidal tendency, etc. Acute mania is less common, though it may be observed; thus in the opium resorts of Indo-China, we may see Malays, in a paroxysm of fury from having lost at play, rush into the street, knife in hand.

Finally, the prolonged abuse of morphine may at last cause a state of dementia, more or less analogous to the other toxic dementias.

With these purely psychic disorders occur the array of physical symptoms of the poisoning, such as anæsthesia or hyperæsthesia, diminution of the reflexes, increased appetite, obstinate constipation with tenesmus, dysuria, hoarseness of the voice, induration of the skin, tendency to local accidents at points of puncture, and lastly the aged and wrinkled appearance of the face.

2. *Effects of Abstinence.*—These effects are produced in morphinomaniacs who, either voluntarily or involuntarily, find themselves suddenly deprived of their habitual stimulants. Among the effects of abstinence there are some identical with, and others opposed to, those that result from abuse. Mentally we see the euphoria disappear and be replaced by irritability, inequalities of character and humor, and tendency to criticise and see evil in everything. To this is joined a greater or less degree of sentiment-

ality, incapacity for work, mental weakness, somnolence, and weakness of the will. In some instances the patients are inert and torpid, they will not leave their beds; in other cases, on the contrary, they are excessively agitated, go and come, unable to remain in any one place, they weep and groan and lament on all occasions. Sometimes they also have hallucinations of sight, smell, and taste. Insomnia is generally complete. In some cases a genuine attack of insanity declares itself, commonly maniacal in form, and occasionally even a true trembling delirium.

The concomitant physical disorders in the sensory and motor and organic functions are much more pronounced than in case of the abuse of morphine, and may terminate in a very serious condition, such as collapse, capable of causing death. The best treatment in these cases is the return to the morphine injections, which often causes the symptoms, serious as they seem, to disappear as if by magic.

The diagnosis of morphinic mental alienation, consists essentially in detecting the morphinomania, often sedulously concealed by the patients. Besides the usual symptoms of morphinism, the appearance of the skin with traces of punctures, and the examination of the urine, which contains the alkaloid even after many days' abstinence, will suffice to relieve all doubts.

The prognosis is grave, as there is no passion more tyrannical than that for morphine, and if we

cannot vanquish it or at least attenuate it by a progressive diminution of the dose, the patients generally succumb finally to marasmus or phthisis.

The treatment consists either in the gradual or the abrupt discontinuance of the drug, the latter being the more dangerous and capable of producing the serious effects of abstinence. A third method, intermediate between these two, that of Erlenmeyer, consists in the sudden suppression of the ration *de luxe*, and the gradual diminution of the dose until complete suppression is attained. Isolation in an asylum is often necessary, and some authors do not hesitate to make this the basis of the treatment. It is, in fact, almost the only means—and yet sometimes insufficient—of preventing the morphinomaniac from deceiving, and obtaining by easily plotted ruses, his customary excitant. In order to avoid their seclusion in insane asylums, there have been some special establishments founded abroad (*Heilanstalten für Morphiumsüchtige*) for these cases, where the plan consists, as at Gratz, in the abrupt and complete discontinuance of the poison, without other treatment than immediate intervention, but without morphine, in case any compromising accidents supervene.

In the early stages of treatment by gradual diminution of the dose, other treatment may be limited to the administration of some sedatives, such as bromide of sodium, chloral, and picrotoxine. In the second period, if phenomena of cardiac and general

depression show themselves, it is necessary to stimulate the organism. We may proceed in this *by substitution*, replacing the morphine by some other agent, such as opium, alcohol in full doses, cocaine (a very dangerous agent), atropine, haschisch, nux vomica, caffeine, and lastly, phosphate of codeine, in the dose of ten to fifty centigrammes by hypodermic injections, that was specially recommended as a basis of treatment by M. Guimbail. As a stimulant, strophanthine may be utilized (half a milligramme hypodermically), sulphate of spartein, nitroglycerine or trinitrine (Jennings), fluid extract of kola, etc.

When the hypodermics are discontinued, that is, in the third stage of the treatment, one must combat the accidents that may occur. For the vomiting, iced or very warm drinks, quiet horizontal position, alcoholized black coffee, extract of belladonna. For the diarrhœa, naphthol, salol or salicylate of bismuth in full doses, extract of opium. For the accidents of collapse, energetic cutaneous revulsives, douches, cold affusions, warm baths, sinapisms, urtication, faradization of the skin and especially of the phrenic nerves, injections of ether, and, finally, in very severe cases, the injection of morphine, which, nine times out of ten, is sufficient to arouse the organism from near the point of extinction, or again, as a last resort, transfusion of blood.

The adjuvants to this treatment are numerous, and vary according to the case: hydrotherapy, Turkish

baths, massage, static electricity, heat, valerian, bromides, chloral, alkalines, milk, mechanical stimulations, and exercise and amusements when practicable.

Hypnotism, highly praised by some physicians, may give good results, but only in certain special cases. The same is true of all the agencies that act by strongly impressing the feelings and imagination of the patients, such as violent emotions, religious ceremonies, pilgrimages, etc.

IV.—OTHER INTOXICATIONS.

(Absinthism, Etherism. Chloralism, Cocainism, Oxycarbonism, etc.)

Alcohol, lead, and morphine are not the only substances capable of causing cerebral disorders. There are very many others that have more or less analogous effects on the organism. The description of all the toxic deliriums, useless here, finds its proper place in a special study of the subject, such, for example, as that of M. Pichon (*Les maladies de l'esprit*, 1888), or that of M. Legrain (*Les poisons de l'intelligence*, 1891). We will content ourselves with recapitulating very briefly, at the end of this chapter, the principal characters of certain intoxications to which attention has been more specially directed of late years.

Absinthism.—Absinthism differs, by some peculiarities, from alcoholism. Instead of the anæsthesia of the analgesic type observed in the former, there

is hyperæsthesia of the feet (Lancereaux) and very marked exaggeration of the patellar and plantar reflexes. Moreover the accidents have in this intoxication a much more rapid evolution to dementia.

The conscious, irresistible impulsions are much more violent than in alcoholism. In chronic absinthism, or in the intervals between the attacks, it is not uncommon to see a sort of conscious melancholic state (Gilson). Finally, the epileptiform attacks, which are very frequent, resemble the comitial attacks.

Etherism.—This intoxication is comparable to that from morphine, but is rarer and less grave. The passion for ether, *etheromania*, is not accompanied with the same degree of irresistible craving for the stimulant. The deprivation, also, of the drug produces quite a different condition from the state of distress of the morphinomaniac, and is not accompanied with the same serious accidents.

Chloroformism, which is very uncommon, also presents analogous characters. Dr. Savage has cited cases where surgical anæsthesia with chloroform, ether, or protoxide of nitrogen, has been sufficient to provoke in persons who had been formerly insane or those predisposed to insanity, either a temporary toxic delirium or the return of a vesanic alienation.

Chloralism.—Chloralism is characterized, like morphinism, by an irresistible tendency to the absorption of progressively increasing doses of the

drug, and by a genuine state of distress that is provoked by the abstinence after its long continued employment, but with less serious symptoms. The bodily symptoms seem to consist mainly in gastro-intestinal disturbances. Psycho-sensorial accidents are rare, but there is usually some mental enfeeblement.

Haschischism, *Theism*, *Vanillism*, and *Nicotinism* cause analogous effects on the system to those passed in review.

Cocainism.—Erlenmeyer, Magnan and Saury, Pichon, Séglas, Chalmers da Costa, Hallopeau, Chouppe, and some other authors, have called attention of late years to the cerebral disorders engendered by cocaine. In most of the cases observed, the intoxication was from morphine and cocaine simultaneously, thus complicating the distinction of the symptoms. The special effects of cocaine have, nevertheless, been observed in patients free from morphinism or alcoholism. According to Magnan and Saury, the leading symptom is found in the existence of special cutaneous impressions (sensations of worms, insects, microbes, vermin around the body, in the skin or in the wounds of the punctures); next come hallucinations of sight, hearing, or smell, and, finally, delirium composed of hypochondriacal ideas and those of persecution. There are also sometimes ocular disturbances (diplopia, amblyopia, dyschromatopsia) and, even after small doses as in Chalmers

da Costa's case, tetaniform condition, collapse, hysteroepileptiform convulsions and violent agitation.

Cocaine may be considered as the agent of a grave intoxication and as causing in the system rapid and serious ravages. It is a drug that should be entirely abstained from, at least in the form of hypodermic injections.

Oxy-carbonism.—The vapor of oxide of carbon may give rise to an intoxication, either chronic and professional, as in ironers, or accidental and acute as in poisoning by movable stoves. This intoxication has been specially studied of late years by Woelcken, Lancereaux, Briand, Moreau (de Tours), etc., etc.

The dominant psychic symptom and the one that constitutes the characteristic phenomenon in acute cases, is amnesia, usually retrograde and going back more or less beyond the poisoning. We also observe, especially in the slow intoxication, other phenomena, such as vertigo, oppression, syncope, mental obtusion, hallucinations of sight and hearing, delusive conceptions (notions of persecution).

If these symptoms are not of too long standing the removal of the action of the deleterious gas causes them all to disappear. If the case is otherwise, rapid and incurable dementia ensues.

The treatment should consist mainly in hygienic measures, tonics and reconstituents. In the acute stage alkaline bromides, bromohydrate of quinine, prolonged warm baths, and vertebral affusions.

SECOND PART.

APPLICATIONS OF

MENTAL PATHOLOGY

TO PRACTICE.

FIRST SECTION.

MEDICAL PRACTICE.

DIVISION.

The practical part of mental alienation divides naturally into two sections: (1) medical practice, which relates to the treatment of the insane, and the various matters appertaining to it; (2) medico-legal practice, which includes the medical study of the forensic questions in regard to the insane.

The medical practice is, unquestionably, the one that chiefly interests the physician, as it treats especially of the relations of every kind that he may have with the insane, either during the course of their disease, while they are at liberty, or up to the moment of their entry into the asylums when they are destined to sequestration. But the various points that make up this practice have never been

formulated in any precise manner, and there does not exist, properly speaking, any professional code destined to guide the physician in the current practice as regards mental alienation. Without in any way pretending to fill up this lacuna, I have thought that in a Manual intended especially to be practical, and which addresses itself more particularly to physicians who are not specialists, these practical professional questions ought necessarily to occupy an important place. I have therefore attempted to formulate some general precepts relative to the principal situations in which the physician may find himself in his practice in relation to the insane.

These situations seem to me to be summed up in a general way in the following indications:

1. The physician is called to see a patient supposed to be insane. His task is to find out whether the individual is really insane or not and what is the form of the malady. This is what may be called the *practical diagnosis of mental alienation.*

2. The existence of mental alienation and its form being determined, it remains to say what measures are to be taken in regard to the case, the necessity or otherwise of internement. This second point therefore consists essentially in the *medical judgment as to the need of sequestration.*

3. These points settled, the duty of the physician varies according to whether or not confinement is ordered. In case it is directed, the

physician should proceed to make use of the formalities prescribed by the law in such cases, and from that moment the patient is submitted to the authority of those who have the care and treatment of the inmates of special establishments for the insane. There are here therefore two distinct things: (1) the commitment of the insane; (2) the situation and treatment of the insane in confinement.

4. If confinement is not found to be necessary or is for any reason impracticable, the patient is left at liberty and the physician adopts an appropriate treatment suited to the case. This is the *treatment of the insane.*

5. Finally, the physician may be called on to act in certain conditions, either in regard to the insane themselves, or for their friends: for example, to lay down rules for a prophylactic treatment for the patients or their children, and especially to give opinions on the matter of heredity, as regards the future of their children, or in regard to a proposed marriage by a member of their family. This is what may be called *medico-mental deontology.*

We shall now study briefly, in different chapters, these various points of medical practice in mental alienation, viz.:

1. The practical diagnosis of mental alienation.
2. Medical estimation of the necessity of sequestration.
3. Placing the insane in special establishments.
4. The treatment of the insane.
5. Medico-mental deontology.

Chapter II.

THE PRACTICAL DIAGNOSIS OF MENTAL ALIENATION.

Just as diagnosis in ordinary medicine is composed of two distinct elements: the study of the history of the case and the examination of the patient, so also and even more so in mental medicine it is absolutely indispensable that we should inform ourselves as to the antecedents of the case before proceeding to the interrogation and direct examination of the patient.

But while in ordinary medical clinics the patient can usually give the facts needed by the physician for his diagnosis, even better than anyone else, in the mental clinic it is almost always impossible to proceed in this way, and it becomes necessary to get the history from another source. The majority of the insane, indeed, cannot furnish the slightest serious indication as to their past, some, like the degenerates and the dements, because they are incapable; others, like the excited and incoherent cases, because it is impossible to fix their attention; some, like the melancholiacs, from their more or less absolute mutism; and others, finally, like the victims of persecutory delusions, on account of their reticence and because they think they see a trap in the questions asked them.

It is, therefore, usually inexpedient to begin directly with the patient without previously acquired information, and before obtaining this it is needful to interrogate the members of his family or some one very closely associated with him. By thus doing we can obtain valuable information that will give important aid in examination and diagnosis.

HISTORY.—The facts to be obtained from the relatives or intimate associates include: (1) the family history; (2) the personal antecedents of the patient. As these very often include matters of extreme delicacy, the physician should in questioning, show himself to be discreet, reserved, should use the greatest circumspection and make the persons he interrogates understand that all these details, far from being superfluous, may have, on the contrary, a very great importance. And after all we must not forget that the information thus obtained is far from being the exact expression of the truth. Either from honest ignorance or more often still from a feeling of repugnance or false shame very common in society, the members of the patient's family very frequently fail to give the physician the truth as regards hereditary antecedents. We may also, in a general way, accept as under the reality the semi-admissions we obtain in this regard.

1. *Family History.*—In investigating the family history one must not limit himself to obtaining data

as to the patient's father and mother, that is to say, to his direct ancestors. It is equally necessary to learn in regard to his collateral heredity and his descendants, and particularly to go back in the direct heredity to the grand-parents. We have seen, indeed, that heredity in certain families sometimes jumps one generation to appear again in the succeeding one, so that the insanity of an individual, leaving his immediate descendants intact or at least existing in them only in a latent condition, may break out in his grandchildren. It is well therefore to obtain information whether there have not existed in the paternal or maternal ancestors, or in the collaterals or descendants, well defined cases of mental disorder, spinal disease, neuroses, alcoholism, suicide, abnormal vices or criminality, deaf-mutism, consanguineous marriages, diatheses in general (tuberculosis, arthritism, cancer, syphilis), or simply cases of eccentricity, or defective psychic organization; since, as Morel has justly remarked, insanity is very frequently not the direct result of insanity, but is rather that of a predisposition that is shown in the ancestors only by some simple oddity of character, or by an isolated tendency to sadness or excitement. In addition to these facts there are some others the knowledge of which may be of interest. Thus it is well to know, when we can, if the patient is not illegitimate, if at the time of his presumed conception his parents were young or old, if they were under the influence

of alcoholic excitement, were recovering from any long or serious illness, or suffering from any kind of exhaustion, etc., etc. It is, in fact, very important to specify the nature of the diseases or the morbid peculiarities that may have existed in the family, since all kinds of alienation do not have the same origin or recognize the same heredity. Thus at the present time the tendency is to admit that general paralytics do not usually descend from insane parents but from subjects of tendency to other cerebral disorders, while the heredity of the insane properly so-called, is from vesanic ancestors. We know also that certain varieties of insanity such as double form insanity, and hereditary suicide, are inherited from ancestors similarly affected, while in the other types the heredity is dissimilar as a rule. It will be understood that these indications, drawn from heredity and its form, may be of importance in cases where the diagnosis presents difficulties, for example, when we are endeavoring to establish or reject the existence of general paralysis. In such case the assured proof of vesanias in the progenitors would be a fact against the presumption of general paralysis, which on the other hand would be supported by a history of apoplexy or hemiplegia of the parents.

The important question of heredity settled, not only as to its existence, properly speaking, but also as to all its characters of multiplicity, complexity, form, etc., it is of importance to study the family of the patient, as to its general constitution, the prin-

cipal manifestations of its life, in that which we have studied, with M. Ball, under the name of the *biological* characters of the family. The principal of these characters are: the longevity, or duration of life, usually rather long in the families of the insane; the natality, or average number of births, also high in families of the mentally alienated, especially in those subject to cerebral accidents; the vitality or vital power, less in early life on the contrary in these families. We may find here certain indications, certain peculiarities that betray the hereditary taint, and show clearly the degeneracy and the form of degeneracy that weighs upon the race.

2. *Antecedents of the Patient.*—The family of the patient known, both as to the ascendants and the descendants, it is needful to become informed as to himself, and this from the period of his birth up to the time we are called to examine him. This inquiry therefore includes two distinct parts: A.—the history of the life of the patient up to the disorder; B.—the history of his disease.

A.—In regard to this first point we should inquire rapidly as to all the main points of the patient's life, his age, civil condition, physical, mental and moral constitution, his resemblance in these respects to this or that of his progenitors, his degree of mental culture, his character, tastes, religious sentiments, instincts, habits and penchants; should inquire if he

is nervous and impressionable; at what epoch puberty appeared and how; if the patient is a female, inquire as to the catamenia, whether suppressed, difficult, or normal, whether or not their return is accompanied with psychic or nervous disturbances, whether there have been any pregnancies and how many, how they have been endured; one should learn whether the patients have not been or are not still affected with any serious disorder (meningitis, convulsions, typhoid fever, visceral disease, or any diathesis whatever, especially former attacks of insanity); if they have not received injuries, particularly blows on the head; if they have been guilty of alcoholic or sexual excesses; if they have not used tobacco excessively, or morphine or any other poison; if their occupation has exposed them to any intoxication or other deleterious influences; if they have had domestic difficulties, reverses of fortune, unexpected joy; if they have passed suddenly from an active life to one of repose, or *vice versa*, etc., etc. In short no point must be left in the dark, and every effort must be made to search out fully the patient's past life.

B.—Passing next to the malady the nature of which is to be determined, one must demand of the relatives what, in their opinion, is the cause or probable cause, moral or material; what was the date and manner of its beginning, its first mental and bodily manifestations, the course it has taken since its beginning; inquiry should be made as to the present conduct of the patient, the nature of his ideas, his

conversation, sentiments, the acts he has committed, the state of his organic functions, especially his digestive and genital functions, and, above all, his sleep.

Whenever possible, the writings of the patient should be seen and compared with other similar productions of various previous dates. The autographs of the insane deserve all the physician's attention as they often bear the direct evidence of the disorder of their faculties, either in form as a graphic representation, or fundamentally as a mode of expression of delusional ideas.

The interrogation of the family having been completed, we find ourselves in possession of valuable data that permit us to proceed profitably in the examination of the patient himself.

EXAMINATION OF THE PATIENT.—It may happen that we have to deal with a patient, with more or less fever, or one suffering from an acute visceral disease complicated with delirium; in such cases the first steps should be as with an ordinary sick patient, and the diagnosis consists in determining the existence of the organic affection and specifying the nature of the febrile or vesanic delirium that accompanies it. We have seen, in the first part of this work, on what basis rests this distinction, generally easy to establish.

Generally we have to do with an insane person, who continues, in a measure, to go and come, to live

his usual life, and who is still semi-capable of understanding what passes around him and of carrying on a conversation. These are the cases therefore we must have in view in our study.

First, how to begin with the patient?—This is, in its way, a very important question, and one that presents certain difficulties. In ordinary medical practice, the patient, instead of fearing the physician's visit, desires it with impatience, he looks to him sometimes as to a saviour, so the relations between the two are very satisfactory. The peculiarity of insanity on the other hand, is non-recognition of itself, and the majority of the insane, ignorant of their condition, believe themselves perfectly sound in mind. To begin therefore as a physician, at least in cases other than those of profound dementia or of violent maniacal excitement rendering the subjects indifferent to everything about them, is to incur a great risk, not only of spoiling everything and of reaching no result, but also of having the patients fall into a passion, become violent, and sometimes receiving insults, threats, and regrettable violence.

How shall this difficulty be avoided? Some authors have proposed, when it is not possible to meet the patient as a medical advisor, to make use of any knowledge one may have as to his delusions to introduce one's self in a character in accordance with them. Is the patient a megalomaniac who believes himself possessor of an immense fortune, a general, prince,

or potentate? Then begin as a man of business, wishing to propose a purchase, a banker, or an ambassador from a friendly power. Is he, on the other hand, a case of delusions of persecution? Then present yourself as a police officer, a magistrate charged with making an inquiry into his persecutions and obtaining for him justice. And so on, each form of delusion serving as a basis for the part the physician is to play. Other authorities, Dr. MacDonald among others, affirm that all these disguises are unworthy of the physician, and should in no case be resorted to; all the more, since the insane often detect the imposition, and take a malicious pleasure in making the doctor ridiculous in his assumed character: as, for example, the insane mystic to whom Dr. MacDonald was introduced as a Protestant clergyman, and who mischievously compelled the poor doctor to say grace at meals and to answer the most difficult theological questions. In fact, we cannot lay down any fixed rules in this regard. On principle, it would be better to present oneself squarely as a physician were it not for suffering the first fire of the patient's anger; it is rare that with skill and patience one does not speedily master his spirit. It is only when it is impossible to act otherwise that the physician ought to hide his real personality under any disguise; he should also guard against giving way to all the fancies of the relatives, who under the foolish pretext of not disturbing the patient, sometimes invent the most ridiculous comedies, even going so far

as to demand that the physician should announce himself as a tailor come to take his measure, or as some sort of merchant soliciting trade. The most simple *rôles* are always the best. One of the better methods is to appear as a doctor calling to see some other member of the family (wife, children, etc.); the health of such person is a convenient subject to open upon with the patient and conduct the conversation naturally, and then lead him unconsciously to the subject of his own health.

Once in the presence of the patient, whom it is always well to know how to distinguish amongst those about him when seen in company and for the first time, under penalty of otherwise making regrettable mistakes, one should avoid a direct attack of asking inconsiderately in regard to his delusions. Sight should not be lost of the fact that in this situation one is before a place to be taken, there is a veritable siege to be laid.

The discourse ought, therefore, to be at first confined to matters of light importance, and it is by a series of skilfully managed transitions, taking advantage of every hint dropped by the patient, that it is, unconsciously to him, directed to the pathological conditions. It is profitable, moreover, to utilize these first few minutes in the inspection of the patient, to form a judgment on the total and the details of his physique, which may furnish valuable indications, and in some cases be alone sufficient for the diagnosis. Thus microcephaly, prognathism, lack

of folds in the ear, deaf mutism, lisping, and all malformations and arrests of development are signs of intellectual and moral degeneracy; excessive asymmetry of the face should put us on our guard for epilepsy; hemiplegia indicates an apoplectic dementia; embarrassment of speech by itself alone, and with much more reason when it is accompanied with tremor and inequality of the pupils, is often sufficient to cause the recognition of general paralysis; very marked tremor of the hands reveals alcoholism; agitation, disordered acts, incessant cries, incoherence, animation of the face and eyes, denote mania; depression, grief, immobility, hanging head, violaceous tint of the skin, infected odor of the breath, cicatrices of special localities, notably the head and neck, evidences of one or more suicidal attempts, indicate melancholia; a gloomy, haughty, distrustful attitude with eyes open and threatening in appearance indicates persecutory hallucinations; oddity of costume, a special arrangement of the headgear, hair and beard, colored ribbons, medals and chaplets worn conspicuously, and a proud and majestic attitude, betray a systematized insanity, especially megalomania; and so on, the physical inspection alone, that is too often neglected, frequently reveals interesting particulars that, aided by information already obtained, are sometimes sufficient to make matters completely clear to the observer. It is well, at the same time, to cast a glance about the apartment of the patient, which by its general arrange-

ment or that of certain parts, of certain pieces of furniture or accessories, sometimes affords characteristic indices of insanity.

During this time conversation opens the way, and one gradually obtains control of the patient's mind so that the point is reached of progressively leading the discourse on to the subject of his delusions. This arrived at, there is no invariable rule to be followed any more than there is a methodic order of questions to be asked. Everything is subordinated to the nature of the disease and the attitude of the patient. Therefore it may be settled as a principle that the course of the conversation, instead of being laid out in advance and consisting in a series of pre-arranged questions asked in a definite order, should rather be guided by the patient himself. The physician, without losing for an instant his object in view, should let the patient talk, listen without interrupting, even although he relates tedious details, limiting himself to recalling him to his subject whenever he wanders, and narrowing it more and more. In this way we are able to elucidate all the points of the problem and to penetrate more and more deeply into the intimate and secret feelings of the insane.

In any case whatever it should never be forgotten that there are two essential and quite distinct things to be determined: (1) the condition of the intellectual capital, that is to say, the intelligence in a quantitative point of view; (2) the state of intellect-

ual functioning, that is to say, the intelligence in a qualitative point of view. The study of the first point will serve to indicate if the psychic faculties of the patient are normally developed or preserved in their integrity, or in other words whether there is or is not any congenital or acquired cerebral infirmity; the study of the second point will make certain whether the faculties, whether normally constituted or not, function incorrectly, or whether there exists any insanity and, if so, of what kind.

In order to estimate in a quantitative point of view, the psychic level of the subject, we should use for comparison, what we know from previous information of the former condition of his faculties, and compare with that the state of affairs we find existing, using as means of measurement various questions, recollections recalled, dates and calculations skilfully demanded, making the patient write some lines, calling out some literary, philosophical or moral appreciations on his part, all of which permit an estimation as to the fund of intelligence, and especially of the state of the memory, ideation, reasoning power, judgment and moral sense. This important part of the problem being settled, and it is generally easily managed, at least when the degree of dementia or mental weakness is slight, we seek to solve the second question which consists in ascertaining whether the patient is a victim of insanity and of what form.

The information obtained from the family, added

to that obtained from inspection and questioning of the patient, has already sufficed to assure us that he is affected with some mental disorder. As regards the question whether the mental trouble amounts to an actual insanity or not, it is one which, while easily solved in most cases, may in some others give rise to very serious difficulties; there is not indeed, properly speaking, any absolute criterion of insanity. It should be based mainly on the condition of the will power, because the thing of most supreme importance is to find out if the patient is still his own master and controls himself or, on the contrary, if he has lost the free control of his actions and is more or less completely under the dominion of his morbid tendencies. In a case, moreover, where we have to do with one of the exceptionally dubious instances of semi-insanity, the exact estimation of which is so difficult, one ought always to either claim a supplemental inquest, or to utilize in consultation the skill of a brother physician.

The existence of insanity established, it yet remains to determine its form and, when we have to do with a generalized insanity, to ascertain whether it is a simple or a symptomatic or sympathetic form. This is the indispensable complement of the diagnosis, which can only be settled satisfactorily by having clearly before the mind the primary elements of mental alienation and the manner in which they are associated together to constitute the various types of insanity. Thus a general disorder of the activty, excitement or depression, denotes a condition of

mania or of melancholia, while the absence of this general disturbance indicates partial or systematized insanity; in the same way, mobility of the ideas, incoherence, sensorial and mental illusions, disordered excitement of speech and actions, characterize acute mania; gloomy delusive conceptions, ideas of culpability, of humility, of ruin, damnation, perdition, hallucinations, refusal to speak, to eat, or to move, together with suicidal tendency are characteristic of melancholia; systematized, coherent delusions, either of persecution or of mysticism, hallucinations of hearing and disturbances of the general sensibility, reticence and impulsions, appertain to systematized insanity, etc., etc.; in a word, in order to be able to distinguish in practice the different forms of insanity from each other, it is needful that one should be acquainted with the principal symptoms of each special form.

Not losing sight of this objective point we can proceed to the interrogation of the patient and the determination of the peculiarities of his mental condition; that is, according to the case, the nature and intensity of his delusive conceptions, his hallucinations, his intellectual, moral, and affective aberrations, his prepossessions, desires, projects, pathological hopes, his temptations and impulsions.

It is understood that it may not be possible to lay down fixed rules relative to formulas to be adopted in the interrogation, nor consequently to indicate any made-up list of questions. What it is import-

ant to keep in mind is, that whatever may be his condition, it is needful to always treat the patient with the greatest politeness and consideration, since, however profoundly disordered they may be, the insane are always capable of appreciation of politeness and consideration shown them. It is, besides, by such means that we are able, in great part, to obtain their good will and ascertain their mental condition, the principal aim of our proceedings. It is well understood that we should never speak to a lunatic as to a patient, or let him suspect that we consider him affected with any mental trouble whatever; so it is important to weigh all one's words with care, and particularly to guard against any evidently medical interrogations, like those addressed to other classes of patients, such for example as,—"Have you any ideas of persecution?" "Since when have you had this embarrassment of speech?" "Have you always had these hallucinations;" etc., etc. The condition of the patient and the peculiarities of his disorder must be ascertained without any technical word having been pronounced, and without his suspecting that he has undergone a scientific examination to find out whether or not he is deranged. I need not add that in no case should the chief part of the examination consist in the queries and methods of inquiry, without any real import, to which the public and some magistrates wrongly attribute the value of a real criterion, and which consists in simple interrogations on the course of time or the respective

value of different pieces of money. As is well known, with some people, the ability of the patient to tell his age, the month it happens to be, and to give correctly the money value of a piece of silver or a note is to clearly prove that he is not insane.

It occasionally happens that the physician encounters a patient who continues voluntarily mute to all questions, so that after having exhausted all his resources he is compelled to acknowledge himself vanquished and to give up the interrogation. But this absolute mutism is, in medical practice, nothing especially surprising or discouraging, as it has, by itself, a clinical value, and if it prevents the obtaining of valuable points furnished by the patient's replies, it is, on the other hand, a genuine symptom which, though a negative one, has still a very important signification.

Mutism, in fact, is a special feature of some forms of insanity which its occurrence therefore tends consequently to reveal.

Thus, if we observe a very depressed, woe-begone, immovable individual, with eyes cast down and head bent on his chest, whom nothing seems to move, we have here almost certainly an insane person affected with profound melancholia, more or less closely approaching stupor. The diagnosis will be assured if we find at the same time in the patient disorders of the peripheral circulation, that violaceous coloration of the skin and coldness of the extremities that are the external indices of the melancholic condition.

If, on the contrary, the silent patient is one that meets the approach of the physician with a suspicious, offensive manner, who recoils from him as from a serpent, or, on the other hand, views him arrogantly with fixed gaze, we may be almost certain that in this case we have an hallucinated lunatic suffering from systematized insanity, more particularly with delusions of persecution. Generally, moreover, in spite of his purposed reticence, there will escape from him some significant, insulting, or typical phrase somewhat of the following order, that perfectly clears up the diagnosis: "You know better than I." "I have nothing to say to you." "It is my affair."

The physician who examines a lunatic ought never to be discouraged by rebuffs he encounters, nor break off the conversation at the least refusal to respond that he meets with. As a general rule, the examination of the insane, especially that of reasoning and systematized cases, ought to be prolonged, as these patients have to be mastered gradually; the first quarter of an hour seldom reveals much, then one minute of the second may alone be of much greater value; an hour is not too much sometimes. Contrary to the advice of most authors, I believe, therefore, that it is necessary to tire out the patient. When he is compelled, he yields, confesses without evasion or restriction and gives himself completely to his interrogator. Thus when one has, after much trouble, gained his confidence, he should never abandon the conversation and put it off till another day,

for with an insane person, at least when he has not fully revealed himself, it is hardly possible to take up the conversation at the precise point where it has been left off; usually it becomes necessary to recommence the whole examination and to obtain anew the former admissions before pushing the investigation farther. It is only in exceptional cases, and when the examination needs to be followed up and renewed, as in medico-legal examinations, that we can thus abandon the interrogation half done, to be continued again later.

The examination of the patient finished, we should proceed, whenever it is not impossible, to a rapid examination of the great organic functions, insisting more especially on this, if there is any reason to suspect any visceral disorder capable of having some relation with the mental trouble. It is in melancholic forms and particularly amongst females with internal illusions, or sexual sensations, that it is necessary to give a minute study to the great apparatuses of the organism.

When the examination and interrogation of the patient is completed, the physician should politely and amicably take leave, with a pleasant word or a promise soon to see him again.

Chapter III.

MEDICAL ADVICE AS TO THE NECESSITY OF SEQUESTRATION.

The diagnosis settled and the form of mental derangement once clearly defined, it remains for the physician to give his opinion as to what is next advisable, that is, to pronounce in regard to the question of confinement of the patient or not. Before stating the considerations that may permit him to decide with thorough knowledge in this regard, it will be of utility to call attention to two fundamental points, that seem to be only imperfectly understood in practice.

The first is that isolation in a special establishment being a part of the medical treatment, a veritable therapeutic agency, it is to the physician and to him alone, that the right to prescribe it belongs, it being in this like the prescription of any other method of treatment or medication. It may be said in reply to this that, as regards insanity, every member of the community believes he knows well enough what to do, and that in families where there is an insane member, the relatives will not leave to any one outside of their own number, the responsibility of deciding whether sequestration is or is not necessary. To oppose this will therefore be for the physician to

pit himself against established opinions and to raise a thousand objections. They are well aware, they say, that the patient is a little depressed or excited or even seems eccentric, his nerves are out of order, but as for his being insane, it is impossible, there is clearly an exaggeration here; there are physicians who see insanity everywhere. Moreover the disorder is not yet sufficiently advanced, it will be time enough to act later, if it is needed. They fear the poor man would rather lose his head altogether than be placed in an insane asylum and deprived of his liberty, where he could only become more excited in contact with raving maniacs. It should be considered how he will lose in reputation if the report of his sojourn in an asylum should get out, the whole family would suffer, and he has daughters to get married off. They do not want to take the responsibility of his confinement without consulting all the members of his family, since they fear he would never forgive them if he should be restored to health. They reiterate finally all the old stereotyped tales about asylums that are extant amongst the masses, who believe fully that patients are there submitted to violence and to all sorts of bad treatment. The above are the objections raised usually by the families, to the proposition of the physician, and the reasons why they object to the asylum. But it must be admitted that if errors and prejudices still exist on the part of the public relative to the insane and to the methods of treatment suitable for them, this

is, in great part, due to the fact that medical men have too long lacked interest in the matter and have voluntarily abdicated all initiative as regards these patients. When the time comes when every physician is versed in the study of mental alienation, and can testify from his own observation as to the beneficial effects of isolation in the treatment of insanity, when he will assume his proper function in cases where he is called and explain, with full knowledge of the subject, to the friends the therapeutic efficiency of asylum treatment, then the public will be quickly educated and will abandon its errors as to insanity, as it has already abandoned those in regard to other medical and scientific questions. It is important, therefore, that the physician should never lose sight of the fact that to him, and him only, belongs the right to judge as to the need of confinement of an insane person, and that, if it is allowable to discuss the possibility of this measure with the families, or even, at a pinch, to yield and make some concessions, he should never abdicate his place to the extent of becoming a mere figurehead, charged only with the responsibility of endorsing with a medical opinion a measure the initiative of which appertains to others.

The second fundamental point that seems to me so important to keep in mind, is that establishments for the insane ought not to be considered solely as a refuge, intended to prevent the dangerous acts of lunatics, or as simple asylums serving to protect the

friends, the public and the patients themselves from scandals and pathological crimes. It is undeniable that the guaranties they afford are, in fact, one of their advantages; but their chief utility, that which renders them indispensable, is that they realize in principle and in details all the moral and material conditions of isolation, the most efficaceous and fruitful method of treatment of insanity in our knowledge.

"The insane asylum," says Esquirol, "is an instrument of cure." It is not necessary at this day to discuss at length the advantages of isolation in the treatment of mental diseases. This therapeutic method has proved its value and is proving it every day, and it is recognized at the present time that there is no better means with which to meet insanity. When we compare, as regards the results obtained, the cases treated outside and similar cases treated in special establishments, it cannot but be recognized that sequestration, far from being injurious, offers by itself alone the best opportunity for recovery that is available to the patient. It is this double usefulness of isolation, not only as a protective measure, but also and especially as a precious therapeutic resource, that the physician should keep in mind when called on for his opinion in this regard.

We will now see what are the principal considerations that should occur to the practitioner in forming his medical opinion as to the necessity of this measure.

These considerations are of two orders: (1) those

relative to the patient; (2) those relative to the disease.

(1) *Considerations Relative to the Patient.*—As regards the patient, it is first necessary to consider his situation as regards his family, and especially as regards his social position. If he has no relatives really attached to him and ready to devote themselves to caring for him to the extent of meeting the tremendous difficulties incident to his care at home, if he is alone or surrounded only with indifferent or mercenary people, it is evident that, whatever may be his condition, his confinement in a special establishment is necessitated as the most favorable measure for the treatment of his disorder. On the other hand, if the patient belongs to the middle or poorer classes, we are also compelled in most cases, apart from all other considerations, to have him sent to the asylum, since he is an expense and trouble to his friends who, busied with their daily occupations would find it an impossibility to properly watch over and care for him, and who besides this, deprived as they are of resources, could not undergo the large expense entailed by methodic home treatment. In the wealthy class, on the contrary, the social condition of the patient may necessitate outside treatment, when it is practicable. Then, on account of these various social differences, we may say *a priori*, that all the poorer class of patients ought to be sent to asylums, and that the treatment at home can only be realized when it is practicable amongst the upper classes of society.

(2) *Considerations Deduced from the Disease.*—The considerations deduced from the disease, mainly relate: A.—to its degree of curability; B.—to the more or less dangerous character of the morbid tendencies it produces.

A.—In every case of acute derangement, especially an attack of mania or melancholia, that is of a curable form, isolation should be practiced as early as possible, because it has been irrefutably demonstrated by experience and proven that the insanity has not only ten times less chances of recovery at home than in a special establishment, but also that an attack of insanity, not specially treated but left to itself in an asylum, recovers more quickly than would the same case treated and watched outside of an institution.

In the interest of the patient, which should be above all other considerations, the physician ought therefore to advise isolation in any case that affords chances of cure, and should endeavor to overcome the opposition of the family, who, from very natural but ill advised sentiments of affection and devotion, are always hesitant about separation, and have, moreover, very frequently unjustifiable prejudices against asylums, which they think in their ignorance will aggravate the patient's condition. It is certainly very hard with members of the family who, making no difference between insanity and ordinary ailments, are prepared to devote themselves to the patient and to surround him with the tenderest and

most affectionate care, to make them understand that their own influence and contact are themselves the greatest obstacles to his recovery. Nothing is more true, notwithstanding, and every one acquainted with the treatment of the insane is well aware of the injurious influence usually exercised on the patient's disorder by the intercourse with friends, in spite of their intelligence and manifest devotion. The physician ought therefore to formally counsel the placing of the patient in an institution, in every case susceptible of cure or at least of amelioration. It is important to add, however, that this step should be taken, not after the lapse of some time or after more or less prolonged delay and temporizing, but immediately, as soon as possible after the beginning of the disorder, as asylum treatment is the more effective the earlier it is resorted to. The friends almost always object to this view; they wish to gain time, to have, so to speak, their hand forced by the progress of the disease; a detestable practice, which, although originating in a kindly feeling, does an irreparable wrong to the patient, and every day peoples the asylums with incurables who might readily have recovered had they been sent there sooner. In the face of this almost general opposition the medical adviser ought therefore to insist, to plead the patient's cause, and, if necessary, to call in the aid of counsel whose formal opinion may add its weight to his own advice.

In cases of chronic and incurable alienation, isola-

tion is not so absolute a necessity, at least in a therapeutic point of view, but the need exists in these cases also on account of considerations of family and social order arising from the nature of the case which may render this measure necessary. In the first rank of these may be reckoned the more or less dangerous character of the morbid tendencies.

B.—Whatever may be, indeed, the degree of curability of the mental disease, or whatever the social condition of the patient, it is absolutely necessary to have recourse to sequestration whenever there exists any evident tendency to dangerous acts. In such cases, no matter what opposition the friends may offer, it is the strict duty of the physician to assert the urgency of isolation. It is, therefore, very important as we see for him to be able to recognize the dangerous forms of mental derangement. In theory this distinction seems rather easy, but nothing is more difficult practically, and in the long and brilliant discussions that have taken place on this subject in the Medico-Psychological Society, accord was had on only one point, namely: the difficulty in determining absolutely whether a lunatic is or is not dangerous.

In fact it is hardly agreed on the one hand as to the signification to be given to the word "dangerous," and on the other hand every lunatic, whatever his mental condition may be, is capable of becoming dangerous at any moment. All are agreed that an individual who has tendencies to murder, suicide,

theft, arson, or excessive prodigality, is a dangerous person, but all will not say the same of one who limits himself to, for example, refusing medicine prescribed for him, or who unconsciously exhibits his genital organs in public, or utters in society and before children obscene words and indecent remarks. There is much matter for discussion here, but we must limit ourselves to showing how difficult it is to specify clearly whether a lunatic is or is not dangerous, either to society, to property, to his family or himself.

Nevertheless, this distinction, which lacking a precise criterion cannot be formulated in practice in an absolute manner, is rendered possible to a certain extent by the attentive study of the habitual tendencies in each form of derangement.

In the mental types we have studied under the head of infirmities, and which include the disharmonies, neurasthenias, phrenasthenias, mental weaknesses, imbecility, idiocy, cretinism, and simple dementia, the patients are usually inoffensive, and consequently do not absolutely require sequestration.

It must not be forgotten, nevertheless, that a certain number of them are inclined, from their impulsiveness, and their lack of consciousness to certain illegal acts, such as criminal assaults, theft, arson, and that they sometimes come before the courts to answer more or less serious charges.

Most general paralytics,—I speak of those suffering from simple paralytic dementia,—are also inoffensive, like the ordinary dements, with whom

they have, in this point of view, many analogies. But the case is different with those in whom the paralytic dementia is associated with a more or less pronounced maniacal condition. These patients, it is true, only exceptionally commit assaults or make attempts at homicide; but if in their insanity they respect human life, they have on the contrary no regard for the property of others or their own interests. Some, especially in the beginning, in what we call the medico-legal period, waste their fortune and that of their family on all sides in foolish speculations, inconsiderate purchases, excessive prodigality, and donations of every kind; others, erotic to the highest degree, exhibit their genital organs in public, and commit the most obscene acts; many, finally, are guilty of indelicacies and petty thefts. It is noteworthy that the majority of general paralytics legally confined in the great cities have been arrested in the streets for not having paid for the use of a carriage they have been riding in for many hours, or for having stolen from a shop, without precaution and with the candor of unconsciousness, some trifling object, such as a cheap umbrella, a pair of shoes or trousers, a bunch of cabbage, an egg, or some sweetmeat of little value. When general paralysis is accompanied by insanity of the melancholic type, the danger is less great, at least to the public, but the patient may be more or less suicidally inclined.

In simple melancholia also the patients are generally inoffensive, especially those who do not react actively and whose depression is very profound. It should not be forgotten, nevertheless, that some of them are dangerous, not so much perhaps to others, but to themselves, and that it is sometimes very hard to prevent them attempting to carry out their suicidal ideas.

Besides these mental disorders in which we find the patients often inoffensive but susceptible of becoming dangerous at times, there are others, on the contrary, where the proposition is reversed, where the patients are usually dangerous and only exceptionally harmless; of this class are: mania, principally some of its varieties, double form insanity, hysterical insanity, alcoholic insanity, and particularly the systematized insanities and epileptic insanity.

In acute mania, the patients excited and propelled by an irresistible desire for movement and action are generally disorderly and dangerous. It is mainly violence and sudden destructive behavior that is to be feared on their part, rather than tendencies to homicide which they are incapable of planning. But maniacal excitation, or subacute mania, still more than acute mania, renders its victims dangerous. One has only to refer to the description given of this form of mental disease to realize all the intelligence, astuteness, and knavery that these patients employ in the service of their perverse instincts. With apparent sanity or, at least, with apparent conservation

of their intellectual faculties, they make out to pass for sane individuals with the public and thus finding means to make their calumnies and their Machiavelian inventions seem true, they are; perhaps, with the moral lunatics, the worst of all the insane.

It is precisely, moreover, because hysterical and double form insanity in the periods of excitement, are frequently made up of maniacal excitation and reasoning mania, that the patients suffering from these forms are in the same way so dangerous.

In acute and subacute alcoholic insanity the tendencies to violence, homicide, and especially to suicide are very frequent. It is known, in fact, that under the influence of hallucinations causing in them a panic terror, the most of these patients flee wildly from imaginary enemies and often end in throwing themselves out of an upper window or into the river to escape them.

It is especially, however, in the systematized insanities and in epileptic insanity that we meet with the really dangerous lunatics.

As regards the systematized insanities, whatever the form of the delusions, really offensive tendencies are, so to speak, constant in them. The mystics, besides their practices of fasting, asceticism, and self inflicted violence even to the extent of more or less serious mutilations, often attempt the life of others in obedience to the duty that inspires them. Some believe they have received from heaven a mission to

strike down some great personage, who they believe represents the evil on the earth; others, always with the idea of pleasing God, renew the sacrifice of Abraham and destroy their own children.

The megalomaniacs, those systematized insane who believe themselves to be kings, dukes, princes, or possessors of immense fortunes, are often equally dangerous. It is not at all rare, in fact, to see them urgently claim their supposed riches and titles, either from the public authorities or from well known bankers, and to commit violence when refusal is made to their morbid pretensions.

Of all the cases of systematized insanity those with delusions of persecution are the most dangerous. The greater part of the pathological crimes reported in the journals of the day are, in fact, committed by these patients. This is readily understood. So far as their delusions are not yet fully systematized, so far as they limit themselves to such indefinite locutions as the following: "Some one wishes me ill," they are but little to be feared. At the most they then confine themselves to complaining to the police or magistrates of the persecutions to which they are subjected. But from the time their delusion becomes systematized, from the day when they give features and a name to the person who does them harm, from that day they become essentially dangerous. As Lasègue says, they are no longer persecuted but persecutors. They are infuriated with their self-styled enemies and have no rest until

they have smitten them. They continue to be essentially dangerous in the asylums; usually their ill will is directed against the physicians, whom they accuse of confining them illegally, of tormenting them, subjecting them to the action of electricity etc., etc. The list of asylum physicians killed or attacked by these patients is already lamentably long, and no year passes without this sad martyrology being increased by some new name. We should never lose sight therefore of the fact that the persecutory insane are essentially dangerous, there should be in their case no hesitation, they should be rigorously sequestrated.

Many of the epileptics, at the time of, and particularly after, their attacks are likewise seized with a blind furor during which they unconsciously attack anyone near them, or commit criminal acts, having afterward no memory of what they have done, which is, as we are aware, the peculiarity of this convulsive neurosis.

I stop with this enumeration, which though imperfect, may serve to practically show in what classes of cases a patient is or is not dangerous. It seems to me, however, that it is possible to be still more exact, and that there is one symptom, which, without being an absolute criterion, yet indicates nearly always when it exists, the dangerous forms of mental alienation. This symptom is *hallucinations*, especially those of hearing. In my opinion,—and I believe it is hardly possible to formulate any indication more

applicable in practice,—every insane person who has clearly defined auditory hallucinations is a dangerous lunatic, and should accordingly be put in confinement.

To sum up, the medical opinion as to the necessity of sequestration should be based on a certain number of considerations the chief of which are: (1) the social condition and situation of the family; (2) the degree of curability of the disease; and (3) the more or less dangerous character of the morbid tendencies.

Chapter IIII.*

THE TREATMENT OF INSANITY.

The treatment of insanity comprises the prophylactic or preventive treatment, and the direct or curative treatment.

I.—PREVENTIVE TREATMENT.

The prophylactic or preventive treatment consists in the prevention of insanity in individuals who are predisposed to it. Precise rules in this regard cannot be laid down; it consists mainly in the resources of a proper hygiene and a judicious moral direction. To specially watch over the infancy of the predisposed, to manage them with kindness and firmness, not to spoil them, to avoid in their education any excessive mental application, the more since they often exhibit a marvellous precocity; to combat their bad tendencies and their evil instincts, their nascent passions; to choose for them, by preference, the calm and quiet life of the country; to prescribe bodily exercise and the avoidance of violent moral emotions; later,

* Chapter III of the original work, on the placing of the insane in asylums, is mainly made up of practical statements and comments on the law of commitment in France, which are of especial value to French readers only. It has accordingly been omitted, together with the closing chapter on the civil code in its bearings on insanity, in the present translation.

to fortify them against their first passional impulsions, against their tendencies to excess, irregular living, or debauchery; to put off marriage, or, on the other hand, to hasten it in some rare cases where heredity is not to be feared in the descendants; to watch attentively, in females, the evolution of the great events of sexual life, puberty, menstruation, pregnancy, menopause; finally, to lessen as much as possible the evil effects of degeneracy, to interdict certain unions and to favor happy crossings of blood; such are the general principles that should guide us in the preventive treatment of insanity. Every case, moreover, has its own special indications of which it is necessary to take account.

II.—CURATIVE TREATMENT.

We will divide the curative treatment into general agents or systems and special agents.

1.—General Agents.

Isolation.

The fundamental principle of the treatment of the insane is isolation. This consists in separating the patient from his habitual surroundings, from contact with persons and things familiar to him, amongst whom he lives, and where his disorder had its birth and development. Nothing is worse than the retention of the patient in his own dwelling, and the continuation of his stay amidst his family. There

is, in such case, the influence of the family on the one hand, an influence that is injurious and prevents or delays the cure; and on the other hand the influence of the patient upon his family, which is not less hurtful, and sometimes, when there are children, actually dangerous. Moreover we must take into account the danger from an insane person, either to himself or to society, against which his situation with his family affords only very insufficient guarantees. Isolation is, therefore, a measure of security and a powerful therapeutic agency. .

Isolation may be in a special establishment, in an agricultural colony, or a stranger family, in a country house or in a hydrotherapeutic establishment. Travel is also a means of isolation.

Special Establishments.—Isolation should, as a rule, be secured in a special establishment, either a public or private asylum, and in the great majority of cases, recourse must be had to this radical measure as preferable to any other. The asylum, "that instrument of cure" as Esquirol calls it, unites, in fact, all the conditions of the care of the insane, for whom it was constructed. There the patient undergoes, almost in spite of himself, from the moment of his entrance, the salutary effects of appropriate organization, good hygiene, fixed rules, discipline, of a hierarchy of which he has constantly under his eyes the examples, and at the same time he is under an active surveillance and placed in the hands of expe-

rienced specialist physicians, more able than anyone else to direct in a rational manner the treatment of his disease.

Farm Colonies. Family System.—Confinement in a special establishment cannot be made, nevertheless, an absolute rule, and in some cases recourse may be had to other modes of isolation, such, for example, as the so-called family care. This mode practically presents itself under three forms: the colony annexed to an asylum; the independent colony; and the private residence.

Colonies attached to asylums (German system) exist chiefly in Germany (Alt Scherbitz in Prussian Saxony; Slup, near the asylum at Prague; Ellen, near that of Bremen; Ilten in the vicinity of Hanover). These colonies are designed to afford the insane open-air life and work in the fields. In some of them, as at Clermont-sur-Oise in France, the patients live together in a sort of farm asylum; in others, as at Ilten, they are placed singly among the country people who lodge and board them for a moderate compensation. This system evidently is applicable only to certain classes of the insane, carefully selected by the physicians mainly from among the chronic cases and the convalescents. The nearness of the asylum moreover permits them to be readily secluded on the least outbreak, and watchfulness is not relaxed.

The independent or autonomous colonies (Belgian

system) differ from the above only in that they are not connected with asylums. The type of these institutions is realized in the old Belgian colony of Gheel which dates from time immemorial, and which has been justly called the *Mecca of Alienists*, on account of visits for study that it is constantly receiving. There the insane, to the number of nearly two thousand, are scattered through a commune of over ten thousand hectares, the chief village of which alone has five thousand inhabitants. These insane are divided into *pensionnaires* who live with *hôtes* (boarding masters), and *indigents* who are cared for by *nourriciers*. A central infirmary is used for patients under observation, also for such as require watching and special attention. A similar colony was founded in 1884 at Lierneux in the Belgian Ardennes, and became very prosperous within a short time. The autonomous colonies, excellent as establishments of refuge, leave much to be desired as places for treatment.

In the private house or individual family isolation (Scotch system) the insane are also placed out among families of a farming community; but here this is purely individual, and there is nothing that recalls the reunion of the insane in agglomerated colonies. This method is little known in France. In England it forms a part of the *cottage system*, but is scarcely used except for patients in easy circumstances. In Scotland, on the other hand, it is practised on a large scale under the name of the "private dwelling

system," and it was there extended on Jan. 1, 1888, to 2,270 pauper insane, and to 132 non paupers, or to 22.8 per cent. of all the insane in Scotland. The private dwelling system, in spite of its real advantages in point of view of the material and moral conditions of life of the patients, as well as in that of economy to the state, can hardly be applied, except to inoffensive and incurable lunatics. Even under this restriction its extension in the various countries would have good results in clearing the asylums of a multitude of incurables that encumber them, and in restoring these establishments to their true function,—that of hospitals for treatment. The interesting work of M. Féré (Paris, 1889) may be consulted profitably with reference to all the questions relative to the isolation of the insane outside of the asylums.

Residence in the Country.—Isolation in a country house is still the preferable mode of treatment, in default of internement. It is also that most willingly adopted by the friends, in order to avoid at once the formalities and disagreeable consequences of entry into an asylum and of living with an insane person. Unfortunately, it is a difficult system of treatment to realize in a perfectly satisfactory way, and is, moreover, very expensive. The rule to follow in such case consists essentially in organizing the country house on the basis of a private asylum, of which it is practically the application for a single

patient. To the specialist physician therefore belongs the right of disposing and choosing, both in total and in details the future residence of the patient. He must not lose sight of the following three principal points: (1) not to permit the family to live with the patient and to separate them as much as possible from each other, either in the same house or in different dwellings; (2) to keep exclusively to himself the moral and material direction of the treatment in all its details; (3) to insure for the patient, together with competent and devoted care, a strict surveillance, continuous and intelligent, by individuals really skilled in this work, which demands numerous and especial qualifications. With such an organization a certain number of insane melancholiacs, paralytics, degenerates, etc., can, without doubt, be treated in a house in the country, either from the beginning or after a prior sedative sojourn in a special establishment.

Hydrotherapeutic Establishments.—The insane in the beginning of their disease, or those considered as non-dangerous, are sometimes taken and treated in a water cure establishment. In theory, this treatment has nothing objectionable in itself, and it is in any case preferable to treating the patient at home; but it must be kept in mind that it is hardly applicable except to nervous and semi-deranged cases, and not to lunatics properly so-called, for whom the lack of control and discipline, the too great liberty, the fre-

quent contact with relatives, and the absence of a methodical surveillance, render the situation an objectionable one and not free from danger. Neurasthenics, hysterical cases, certain melancholiacs, and, in a general way, the peaceable and inoffensive lunatics whose malady may be favorably influenced by hydrotherapy, may nevertheless derive real benefit from this method of treatment.

I will limit myself to merely mentioning the placing of the insane in the care of a religious community, a measure resorted to by some families in case of female patients of harmless character. Without exception this mode of isolation offers nothing but inconveniences.

Travel.—Travel is an efficacious therapeutic agency in mental derangement, and at the same time is a salutary means of diversion. By removing the patient from his usual surroundings it corresponds indeed to the very principle of treatment, isolation, while at the same time it causes moral and physical distractions that react favorably on the mind of the patient. Specially recommended by Esquirol and some of his students, who had obtained good results with it, it is less utilized at the present on account of its inconveniences and the dangers to which it may give rise. Without rejecting it in principle, it is well to use it only with prudence, and surrounded with sufficient precautions. Thus certain morbid forms, notably those in which the patients are

usually dangerous, are absolutely incompatible with this mode of treatment. It suffices to say, that save in rare exceptions, we should never take on journeys maniacs in their acute stage, epileptic insane, cases of persecutory insanity, and hallucinated cases in general. On the other hand, traveling is very suitable in melancholic cases, especially the beginning of subacute melancholia, not only because it affords a greater freedom for the patients, but also because they are the more susceptible of being favorably affected by moral treatment. With them the trip acts as a curative agency and may itself cause a cure or at least a notable improvement in the symptoms. We may employ it also in some chronic insanities with subjects more or less inoffensive, but in these cases it is only a means of diversion capable at the most of producing a relative sedation. Whatever the morbid form and the end proposed, the physician ought never to advise or permit an insane person to travel except on condition that the patient should not be accompanied by any of his nearest friends; and that the direction of the trip should be by an experienced person in preference to a young physician; finally, that all precautionary measures should be taken to prevent, as far as possible, any disagreeable events or accidents. It is well also to take the patient a sufficient distance, often even out of the country, and also to frequently change his residence; and, finally, it is needful that the trip should be long enough, some months or even years, according to the

case, and if it seems to produce any good effect, it is advisable, to prolong it till convalescence is firmly established.

Non-Restraint.

Among the general systems that have been proposed in the treatment of the insane, it is well to cite those designed to modify whatever there may be of rigor in the regime of special establishments for the insane.

The system of *open door asylums* is of this kind. As its name indicates, it consists in the suppression, in the asylums, of guards and enclosing walls. Practiced only in Scotland, the country *par excellence* of reforms and innovations of this kind, it is still far from having had its last word.

Non-restraint proposed in England by Conolly and Gardiner Hill, and imported into France by Morel and Magnan, consists in the complete suppression among the insane of means of physical restraint, and especially of the camisole. Long maintained as an absolute principle by its partisans, this system is tending to gradually lose its ground, even in the country of its origin (V. Parant, 1890). Circumstances exist, in fact, such as too violent agitation, propensities to voluntary mutilation, suicide, homicide, etc., when it becomes necessary to restrain the patient. The camisole, used skilfully, without roughness, and in such a way as not to at all

embarrass the respiration, is the only procedure to which we should have recourse.

The physician, moreover, and he alone, should be the judge as to the need of the use of the camisole and the length of time it should be employed. In no case should it be left to the attendants to decide, since such a course necessarily tends to cause abuse.

When it is not absolutely necessary to confine the patient's arms, but only his hands, as, for example, in cases of extreme tendency to onanism or destruction of clothing, the camisole may be replaced by a muff of leather or canvas which confines the hands to the level of the belt.

It is in only very exceptional cases, and when absolutely necessary, that we may, for a short time only, have to fasten the limbs of a patient to the bed, by means of specially designed straps, well padded, and moderately tightened around the ankle.

2.—Special Agents.

A.—*Hygienic.*

The hygienic treatment of insanity includes the usual sanitary regulations in regard to clothing, habitation, food, sleep, etc.

The clothing of the insane calls for no special remark except that it ought to be ample and free, and especially that it should not be too tight around the neck, on account of the possible congestive tendency of many of the patients. The dwelling,

being usually an establishment for the care of the insane, or at least, as we have seen, a house arranged for this purpose, there is no need here to point out the rules that ought to guide its construction and management; it need only be said that the patients' rooms should be wholesome, well secured, well ventilated and, as far as possible, on the ground floor. The food should be wholesome, tonic and nourishing; excitants, wine and alcoholic liquors in particular, without being absolutely forbidden, ought to be used only in moderation. Milk, eggs, soup, white meats and fresh vegetables should form the general basis of the nourishment. For general paralytics, especially in their later stages, the food should be given cut small, and the meat hashed, to avoid asphyxia. Finally, the hours of meals should be as regular as possible with the insane. As to their sleeping quarters there is nothing special to note, except with untidy patients who need special arrangements for cleanliness.

The best bed for untidy patients is an iron bedstead with straight sides, but with the bottom formed by a double inclined plane, sloping toward the centre, which is perforated, and thus permits liquids to pass into a vessel underneath. The bed is filled with sea wrack or dry turf (Cuylits) which is covered with a cloth. Changing the cloth each day and removing every morning that part of the sea-weed or turf that is soiled, we have a clean and perfectly dry bed. Instead of this bed we may use an ordinary bed

with, in place of one large mattress, three small ones. The one in the middle may be filled with seaweed, straw, oat chaff, etc., and is intended to be soiled and replaced each day. Above these, on the tick or mattress a waterproof rubber cloth may be used. Air or water mattresses may also be employed. The best arrangement, however, when a proper bed for untidy patients cannot be had, is made by using a large and thick rubber blanket made with a tunnel-like tube in its centre, which, passing through the mattress, carries the drainage into a vessel underneath. With this practical arrangement any bed whatever may be utilized, and I have always employed it for untidy patients whom I have had to treat in private houses.

In these ways we contrive to secure a wholesome and dry bed for the patient, and to prevent, to a considerable extent, with the use of the usual means of cleanliness, the occurrence of bedsores and sloughs.

B.—*Psychic Agencies.*

Under this head we take up the subjects of moral treatment and suggestion, which form the two principal elements of the psychic treatment of the insane.

Moral Treatment.—Moral treatment, together with isolation, is one of the most important agencies in the cure of insanity. Its direction should belong to the physician alone, by virtue of his situation, his profession, his authority, and his character. Moral

direction therefore consists essentially in the psychic influence exercised on the patient for the purpose of cure by the physician himself or under his direction. All mental disorders do not act in the same manner in this regard, and some are particularly susceptible of being influenced by this kind of treatment. Melancholia is one of these.

The medical action is exercised in very different ways according to the case, and it demands a tact, skill, and knowledge, that is only acquired after long practice. It may be said, without exaggeration, that the physician, by his mere presence and the influence which he exercises when with the patient, is a potent agency for the cure. It is only necessary to see in asylums with what impatience the doctor's visit is expected, what good impressions his encouragement and advice produce in some melancholiacs, to recognize his influence. As a general rule the physician ought to show the greatest politeness to and sympathy for his patients. However absorbed they may be in their delusions, the insane are always sensible of kindnesses and marks of interest in them, and this is one of the best means of gaining their good will and gaining control of them. It is needful to listen to them, treat them with authority, although with kindness; to make them feel that in their physician they have an adviser and a moral support; not to openly ridicule their ideas, even the most unreasonable ones, nor to contradict too flatly; to take care, nevertheless, not to approve

of them or to consider their delusions as the expression of the truth; to direct and regulate with care and judgment the interviews with relatives and friends, the correspondence, the occupation, the diversions (manual and mental employment, promenades, painting, designing, music, singing, entertainments, religious exercises, etc., etc.); to encourage them when they begin to doubt their delusions and help them to gradually appreciate the reality; and in certain cases, where their obstinacy, indocility, and persistence in their fixed ideas or morbid acts necessitate it, to change the attitude, to act with authority, be severe, and use intimidation, never however going so far as to use violence. All these means are excellent and have a great value in the hands of experienced physicians; but they are two-edged weapons that should be employed only wittingly and with prudence. As is well known Leuret has made argument and intimidation the basis of a systematic treatment, which he calls *moral treatment*. This consists practically in convincing the lunatic of his errors either willingly or by force. As the one principle of treatment this system is evidently not acceptable and is, moreover, hardly capable of producing satisfactory results. The patients are shocked and humiliated, they are embittered by these methods, they are compelled to admit their insanity without being convinced; they are, in short, placed in the situation of those who in former times were forced by torture to confess crimes of which they were innocent. It is

not necessary to be acquainted with the insane to know that their errors are not such as can be uprooted by force, and that it is needful to leave them to wear away and disappear spontaneously.

Suggestion.—Therapeutic suggestion may be practiced, as we are aware, in two ways; either during the waking state or in the hypnotic condition. The first of these is as old as medicine itself, and numerous remedies owe to it, either wholly or in part, their virtues. (See Dr. Hack Tuke's "Influence of the Mind upon the Body.") As Doutrebente well remarked at the last International Congress of Mental Medicine, the moral effect of the physician on the insane is especially a suggestive action, a suggestion in the waking state. As to hypnotic suggestion, although previously known, it has only within the past few years been studied experimentally and applied to the treatment of disease.

In the domain of neuro-pathology therapeutic suggestion has already produced undeniable results. It is effective especially in dynamic disorders, or those without recognized anatomical lesions of the nervous system, chiefly in neuralgias, hystero-epileptic attacks, paralyses, contractures, hysterical anæsthesias and vomiting, rebellious cephalalgias, chorea, etc.

Its action on the psychoses is much more questionable. *A priori* it is logical to think that an agent of this kind, capable of modifying the ideas, the

feelings and even the personality of an individual, might be able to construct what it has undone, that is, to call back the ideas to their normal condition, and the feelings and personality to the one who has lost them. Unfortunately experience has given only a negative answer up to the present, at least in the majority of cases.

M. Auguste Voisin was the first who attempted the application of hypnotic suggestion to the treatment of mental disorders. Since then a great many authors, French and foreign, have reported the results of their own experience in this regard. I will cite among them: Benedikt (of Vienna), Forel (of Zurich), Ladame (of Geneva), Castelli and Lombroso, Bernheim, Bremaud, Fontan and Segard, Peyronnet, Ventra, Amadei, Dumontpallier, Obersteiner, Vizioli, Bottez and Mall, Herter, Bérillon, Algeri, Percy Smith, and A. T. Myers, and lastly Seppili, whose recent remarkable study is, at the present, the best we have on the subject. (*Archivio italiano*, Sept., 1890). It appears from the whole of these memoirs that,—as Bernheim has shown, and as I pointed out very clearly in 1884, in reply to M. Auguste Voisin (Ass. for Advancem. of Sciences, meeting at Blois),—the insane are most frequently refractory to hypnotism, and only hysterical, epileptic, dipsomaniac, and obsessed cases seem to be susceptible to hypnosis and benefited by suggestion. The following are the very judicious conclusions of Seppili's paper:

(1) Hypnotic suggestion cannot be employed as a means of treatment in mental diseases, on account of the difficulty of hypnotizing the insane.

(2) The best results of therapeutic hypnotic suggestion have been obtained so far in the psychoses dependent on hysteria and dipsomania.

(3) Hypnotic suggestion may be employed when the patient takes to it kindly and is profited by it. The practitioner should employ it only with great caution and note any injurious effects which, in certain cases, may be produced.

(4) Therapeutic suggestion in the waking state is the most useful and efficacious agency in the treatment of insanity, and to it alone are due the salutary effects of the asylum, which has a really suggestive character.

(5) In cases of melancholia without delusions, fixed ideas, alcoholism and the milder forms of stupor, repeated methodical suggestion in the waking state, employed to combat the morbid phenomena, may be very useful.

(6) In the chronic forms of insanity, and in paralysis, suggestion has never afforded any good results.

Physical Agents.

The principal physical agents in the treatment of insanity are: hydrotherapy, electrotherapy, and massotherapy.

HYDROTHERAPY.—Hydrotherapy, readily employed in mental medicine, has, nevertheless, been thus far hardly utilized except in an altogether empirical fashion. In tolerably complete medical studies of the subject, I can only cite the interesting general review by my friend Jules Morel of Gand (*Bulletin de la Soc. de Méd. Mentale de Belgique*, Dec., 1889), and the chapter on hydrotherapy of Kovalewsky's recently translated work on the treatment of mental and nervous diseases.

The hydrotherapeutic methods utilized in psychiatry are the same as those ordinarily employed. I will state here those that are best known, such as are indicated by my distinguished confrère and friend, Dr. Delmas (of Bordeaux) in his excellent *Manuel d'hydrothérapie.*

The apparatuses, formulas, and hydrotherapeutic methods vary according as they involve the application of heat or of cold.

1.—Among the caloric methods I will mention the *dry pack.* The patient is laid naked on a mattress and is covered with one or two blankets tightly applied and kept thus by an outer cloth, with the purpose of provoking perspiration.

The *wet pack.* Two woolen blankets are laid over an ordinary bed, and over these is laid a cloth previously dipped in water of from 8° to 12° C. (46.4° to 53.6° F.) and then thoroughly wrung out. The patient is placed naked on this cloth, which is then wrapped around him with folds inserted be-

tween the thighs and between the arms and body so that the whole surface of the skin is in contact with the moist cloth. Then the blankets are wrapped around the patient and securely fastened. If a tonic sedative effect is wanted the patient should remain enveloped from ten to twenty minutes; but it should be continued for from an hour and a half to three hours, as with the dry pack, if a sudorific action is sought. Other methods of inducing perspiration are used, such as stoves, both of the ordinary kind or those special for this purpose, hot air baths, fumigations, and embrocations. The name of Russian bath is given to a sudation followed by cold immersion, and Turkish bath to the same succeeded by massage. Foreign alienists, especially the English and Americans, praise these methods very highly, and constantly make use of them.

I will mention further, as methods of employing heat, the warm bath, the piscina, the vapor douche, the warm douche, the Scotch douche and the alternating douche. The Scotch douche is a warm douche followed suddenly by a cold one. The alternating douche is the Scotch douche repeated many times in succession.

2.—The application of cold is also made by numerous methods, among which may be mentioned, *partial* or *general envelopment*. Partial envelopment bears the name of *cincture*, from the region to which it is most frequently applied. It is applied by means of a towel soaked in cold water and wrung out more or

less completely, surrounding the body and covered with dry linen or water-proof so as to produce a local vapor bath. The wet cloth serves for a general envelopment. Dipped into cold water and partially wrung out, it envelops the whole body, and then energetic friction with the flat of the hand is employed.

In *immersion* the body is plunged into cold water. The immersion is total (bath tub, tank, swimming basin) or partial (half bath, sitz bath, arm, hand and foot baths). In the affusion bath, the body plunged in water of a bath tub, of moderate temperature, receives from the sprinkler of a watering-pot a shower of a more or less lowered temperature.

The projection of cold water on the body constitutes the *douche.* This is general or local. The general douche is called, according to its form, shower, circle, jet, sheet, needle, palette, lance, column, direct, and broken. Local douches in their turn, according to the case, receive the names of hepatic, splenic, epigastric, hypogastric, ascending, vaginal, uterine, lumbar, anal, etc., douches.

Hydrotherapy, in its principal therapeutic effects, is sedative, stimulant or tonic. In a general way the sedative effects follow the use of warm and the stimulating or tonic effects the use of cold water. This is, nevertheless, not an absolute rule, and the duration as well as the mode of the application act, as well as the temperature, on the final result. As a rule the best method is that using moderately cool or temperate douches 20° to 30° C. (= 68°

to 86° F.) as a beginning of the treatment, taking due note of the season, the temperature of the atmosphere, and the condition at the time. As regards duration it ought not to exceed ten seconds at the beginning, with water at 12° C. (= 53.6° F.), and half a minute at the maximum, if the water is raised to a temperature of 18° to 24° C. (= 64.4° to 75.2° F.) (Delmas).

There is no need here to describe the apparatuses of hydrotherapy, every one is now acquainted with them. I will limit myself to saying that institutions for the insane ought to possess a hydrotherapeutic outfit suited to the varying needs of practice. For the treatment of patients at home, we may use the so-called shower bath. I prefer a simple copper irrigating pump, which, placed in any kind of a vessel, suffices at all times and places, for the administration of warm, cold, Scotch, and alternating douches.

I need not pass in review here all the mental disorders in which hydrotherapy is useful, but will confine myself to stating the chief ones.

Neurasthenia.—In cases of nervous excitement, temperate plunge baths, affusions, wet pack, douches of slight force, moderately cool, and of short duration, general friction with a wet cloth, lotions, etc. In cases with symptoms of exhaustion we should not at once have recourse to the cold douche but should begin with a mixed douche. Later when the patient is acclimated to hydrotherapy, use ex-

citant applications, such as shower baths, and short forcible cold jets, brief immersions in cool water, frictions with wrung out wet cloth, etc., etc. If cerebral symptoms break out and there is hyper-excitement of the brain, cold lotions with sponges or cold compresses applied to the head and frequently changed, moderately cool showerings with slight force, warm affusions when pain is produced by cold ones. If, on the contrary, there is cerebral adynamia, the local treatment should be excitant, but the hydriatic applications should be closely watched and should be mild, short and progressively cooled (Beni-Barde).

Melancholia.—The hydrotherapeutic treatment is very simple. It should first of all be tonic and reconstituant. Douches of moderate pressure, short, general and cool. Proceed with judgment using first water of 82° to 85.6°(F.) according to the season and gradually reduce the temperature. A revulsive action may be needed in the course of the treatment; it can be had by the use of shower baths. The tonic action is increased by the use of the plunge bath, when it is not contra-indicated. If a tonic and a still more energetic disturbing action are both wanted at the same time, this end is best attained by the Scotch douche. If instead of a depressed, we have to treat an excited or anxious form of melancholia, general warm baths with affusions to the head, or a warm shower bath, should be ordered.

Mania.—Here the warm bath of from 82°to 93° F. is the hydriatic treatment *par excellence.* This may be prolonged sometimes for several hours, care being taken to keep cold compresses applied to the head or the cold cap of Leiter or Winternitz. Schüle also uses in subacute mania cold baths of from 59° to 68° F. lasting eight to ten minutes, together with the application of ice to the head followed by friction and rest in bed. Briand has also employed cold baths as antithermics in acute delirium. Svetlin recommends the use of prolonged packs with towels dipped in water of 60° to 68° F., to combat excitement: the calmative and hypnotic effects, he claims, will never fail. Kræpelin, Krafft-Ebing, Schüle, Arndt, Salgó, have had good results with this method, especially in feeble patients. The Russian and Turkish baths also have excellent effects, according to certain foreign authors, in mania as well as in other forms of insanity.

General Paralysis.—"In this disease," says Delmas, "hydrotherapeutic measures should be employed only with great caution. Extreme temperatures should be avoided, also douches with great pressure and especially of long duration. When the disorder assumes the congestive form and the alterations are yet but slightly advanced there is yet hope of retarding the final explosion. Aside from these cases, however, the physician should abstain from all promises, and generally consent to use the treat-

ment only with the fullest reservations." These wise words of a specialist are profoundly true. I will, for my own part, go still farther, and declare that, after numerous experiences, apart from simple bathing, properly so-called, hydrotherapy in all its forms, is useless and even dangerous in progressive general paralysis.

ELECTROTHERAPY.—Electrotherapy, that potent method of treatment, hitherto too much neglected, seems destined to play a very important part in the therapeutics of insanity. We sum up here some of its indications according to the memoirs of Erb, Kovalewsky and Morel, and, according to the advice of our excellent friend, Professor Bergonié.

We use in psychiatry the usual electrotherapeutic procedures: the constant current or galvanization, the interrupted current or faradization, and static electricity or franklinization.

Constant Current or Galvanization.—The constant current for medical applications by means of elements of piles connected in series. It is indispensable to measure the amount of the current utilized. This is done by means of galvanometers graduated in milliampères (the milliampère being the unit of quantity of current employed in medicine). For therapeutic purposes of the constant current, the battery should furnish at least a current of 15 or 20 milliampères. The current is applied by

means of electrodes, the form and surface of which vary with the applications intended. The electrode connected with the positive pole of the battery is sometimes called the *anode*, that connected with the negative pole is called the *cathode*. The intensity of the current at any electrode is the quotient of the intensity of the current by the surface of the electrode. When the density of the current is very feeble, that is, when the surface of the electrode is very great, the action of that electrode is very slight, and it receives the name of the indifferent or inactive electrode. When, on the contrary, the surface is small, the current density at that electrode is great and it takes the name of the active electrode. Sometimes the indifferent electrode may be formed by all the water of an ordinary bath, the active electrode being applied on some non-immersed part of the body of greater or less extent. This is what is called the galvanic bath when the constant current is employed, and the faradic bath when the faradic current is used. The human body interposes a greater or less resistance to the passage of the current, the greater part of which is due to the skin. The unit of resistance bears the name of *ohm*. The greater or less degree of dryness of the skin has a great influence on the resistance. In order to diminish it as much as possible the part on which the electrode is placed should be moistened with warm water, or still better the fatty matter should be removed by friction with alcohol. A *rheostat* is

an instrument that introduces progressively increasing resistances into the circuit. It will be seen that in this way we can vary the intensity of a current from the same number of elements, since the intensity of a current is inversely proportional to the resistance of the circuit it traverses. A commutator or current-reverser is an apparatus that serves to change the direction of a current in the body, by which manœuver the positive becomes the negative pole, and *vice versa*. The collector of elements (or switch board) is the apparatus for introducing into the circuit or cutting out the different elements of the battery. In some cases an interrupter is added by which the current is broken and set in action again.

The constant current is used for the electrization of the head, the spinal cord, the great sympathetic and the peripheral nerves.

Cerebral galvanization has a sedative action on the nervous system, and is therefore indicated in cases of motor or intellectual excitement. It is very useful in neurasthenia (Hughes, Althaus), epilepsy, the premonitory period of general paralysis (Arndt, Hitzig, Schüle), lypemania, mania (Schüle, Tigges, Von Heyden, Wiglesworth, etc.) It should be commenced with a current intensity of zero, very slowly increased. Ordinarily the electrodes are applied longitudinally, and they are applied obliquely only in very exceptional cases. The patient should not see sparks or wink if the apparatus is properly

managed. The average duration of each *seance* is from five to ten minutes.

Spinal galvanization is designed to pass the current through the spinal cord. It may be followed by excellent effects in medullary disorders and in myelasthenia, but it is scarcely used in mental diseases, except occasionally in psychoses with excitement (Arndt and Newth). A rather strong current, fifteen to twenty milliampères, for ten to fifteen minutes, is permissible. In functional disorders the length of the sittings ought to be less than in organic affections.

Galvanization of the sympathetic has been so far insufficiently studied and has been much criticized. It seems, nevertheless, to have before it a certain future, since we can act on the caliber of the blood-vessels by way of the sympathetic and regulate the circulation toward the various organs,—notably toward the brain. As yet we know only the action of galvanization on the superior cervical ganglion as it is the one most accessible to the current. When speaking therefore of galvanization of the sympathetic, it is therefore understood that we refer to this ganglion only. To apply the current the active electrode is usually placed in the auriculo-maxillary fossa, and the indifferent on the chest, the occiput, or the vertebral column. If the galvanization is made on both sides simultaneously a double electrode is employed. The current, feeble at first, is gradually increased, and for this reason a rheostat is

convenient in the circuit. The action of the different poles is not well determined as yet, though clinical observations show that the application of the positive pole to the ganglion rapidly causes redness of the face, flow of blood to the head and a feeling of weight and slight vertigo. The negative pole, on the other hand, causes pallor of the face and sometimes a sensation of emptiness in the head and vertigo. These facts sufficiently indicate the choice of poles in the different disorders. Thus we should employ, subject to later change if necessary, the positive pole in neurasthenia, Basedow's disease, lypemania, hypochondria, and dementia, and the negative pole in general paralysis.

Galvanization of the peripheral nerves is hardly utilized in mental medicine. *Central galvanization* and *general galvanization* as recommended by Beard, are of limited application and rather difficult.

Interrupted, or Induced Current or Faradization.—This current is produced by means of a Rumkhorff coil specially constructed for medical use. We recommend a sliding apparatus giving as regular a current as possible, on which we may use either a fine or a coarse wire bobbin. The same electrodes are employed as in galvanization.

Cerebral or spinal faradization are hardly used at the present time on account of the uncertainty as to their action, and peripheral faradization is the method almost always employed. This acts not

only locally, but in a reflex way on the nervous centres. On account of this reflex action it has been recommended by Benedikt and Arndt in certain psychoses, notably in cases of psychic depression and melancholic stupor. The results obtained seem very satisfactory. There are two kinds of faradization: the deep and the superficial. Superficial faradization affects particularly the nerve endings in the skin, consequently the sensory nerves. It is applied with a dry electrode or a metallic brush. In order to make the current penetrate more deeply, into the muscular structure, it is necessary that the electrode and the part of the body over which it is passed should be sufficiently moistened.

Static Electricity or Franklinization.—Static electricity is produced by friction or influence machines. The ones most used in France are those of Carré, Voss, Vigouroux, and Wimshurst. The necessary accessories are an isolated stool on glass feet, and a series of excitors with glass or ebonite handles. The patient is connected by a conductor with one or the other of the poles of the machine. The excitor, held in the physician's hand by an insulated handle, is connected with the other pole. Static electricity is used in the form of baths, the electric breeze, the aigrette, the electric friction and the spark.

To give the static electrical bath, the patient is made to sit on the stool connected with one pole of

the machine by means of a chain, a stem, or an isolated wire conductor. The machine having been set in action the patient feels in all unclothed parts of his body a peculiar sensation, something between that of a current of air and that of cobwebs. Vigouroux attributes to this bath a feeble sedative, chiefly useful in the neurosis.

The *souffle* or electric breeze, is produced in the following manner: the second electrode, in the form of an excitor with points, is brought near the patient who has been already charged with electricity by the preceding method. There then pass from him electric breezes which give a sensation of a draft or current of air and appear in the darkness like luminous radiations. Vigouroux attributes to them a sedative action that is very effective against the symptom of pain. The *frottement* or electric friction, and the spark, are produced by a spherical or bulbous excitor. In order to obtain the friction it is sufficient to pass the bulb over the patients body lightly. If the part to be electrized is bare, the bulb should be covered with silk, without which, at the moment of contact the body becomes a conductor, and no sensation is produced. To draw out the sparks, the bulb, uncovered by the silk, should be held a short distance from the body.

Franklinization, especially recommended by Charcot and Vigouroux, gives excellent results in certain neuroses, notably in hysteria, Basedow's disease, and neurasthenia. It merits to become of

common use even in the psychoses, especially melancholia and hypochondria. Its use is, in certain cases, combined with that of galvanization and faradization.

Massotherapy.—Thus far massage has been very little utilized in mental medicine, at least in France. It has been more employed in certain foreign countries, associated with hydrotherapy or otherwise.

I will say that the manipulations of massage, are the *effleurage*, and the rubbing, frictions, *petrissage*, tapotement, hachage, and passive motion. I need not describe them here.

The different varieties of massage find their special indications in the various forms of mental disease.

Frictions and *effleurage*, associated or not with cold baths, are very useful in stuporous melancholia.

A general massage, under the form of *petrissage*, is indicated in the various neuroses, hysterical, hypochondriacal, and neurasthenic psychoses (Kovalewsky).

Other Physical Agents.—Other physical agents may be employed, though less important in the treatment, as adjuvants. Of these I will mention, gymnastics, equitation, billiards, canoeing, swimming, and especially bicycling, which, from its availability and its freedom from danger, is suitable for many of the insane. The English, always first in these matters, have already noted and utilized its advantages

(C. Theodore Ewart, "Cycling for the Insane." *Jour. Ment. Science*, 1890). I have also had recourse to it at once as a physical stimulant and a psychic derivative, in some cases of neurasthenia, hypochondria and melancholia.

Surgical Agencies.

Surgery is rarely invoked in the treatment of mental disorders. Occasionally, nevertheless, its intervention may be useful if not necessary.

Trephining, Cerebrotomy, Craniectomy.—Trephining has been formerly tried, it seems, for insanity. Some foreign surgeons seem to wish to revive this method at the present time, and even to carry it farther than before. Thus Batty Tuke and Shaw (1889) practiced trephining with excision of the dura in general paralysis, with the view of relieving the intra-cranial pressure, due to the disease. So also Burkhardt, Horsley, and Althaus (1890) have carried out a series of operations (trephining, excision of parts of the cortex, ligatures of cerebral arteries, extirpation of neoplasms) with the view of curing or ameliorating certain psychoses. The results thus far, however, have hardly been satisfactory.

More logical and assuredly more profitable, is the craniectomy proposed and practiced recently by Prof. Lannelongue in certain cases of arrest of psychic development from primitive synostosis of the skull, with the idea of making it practicable for the brain

to reach its normal expansion. There are, as yet, too few facts to enable one to deduce any definite conclusion, but this operation seems destined to have a certain future.

Revulsion.—This is an excellent therapeutic method in mental disorders that has not been sufficiently resorted to. The happy results of spontaneous suppurations in the insane enable us, indeed, to conclude *a priori*, as to efficaciousness of artificial revulsion, and numerous clinical facts support this opinion. General paralysis itself, refractory we may say to all other treatment, can, nevertheless, be influenced by spontaneous or provoked suppuration, and not infrequently when taken in its beginning, the disease is seen to give way temporarily under the influence of energetic revulsive measures.

The best method of revulsion is a seton in the back of the neck. We may also employ permanent vesication, punctate cauterization with the thermocautery, and lastly irritant frictions; but these methods are generally either insufficient or too painful.

Thyroidectomy. Thyroid Grafts.—It is well known that for some years past various foreign surgeons, following the lead of Reverdin (of Geneva), have attempted the cure of goitre by extirpation of the thyroid gland, or thyroidectomy. After this operation there has been observed in a

majority of the cases, a particular condition of degeneration, analogous to cretinism (cachexia strumipriva, or operative cretinism). Hence it was naturally deduced that the suppression of the thyroid function was the immediate cause of cretinism and pseudo-cretinism, and later physiological and experimental researches seem to confirm this. The cretinism following operations is, moreover, avoided, as we are aware by the substitution of partial for total ablation of the organ. Such being the case, it is naturally asked whether the artificial re-establishment of the thyroid function in those deprived of it could not, if successful, more or less sensibly modify their condition. Experiments of grafting the thyroid gland of a sheep, or of subcutaneous injections of thyroid juice, have been recently made by various experimenters (Horsley, Lannelongue, Bettencourt-Rodrigues), but the results are as yet insufficient for us to speak confidently in regard to the method.*

Together with thyroidectomy I will mention castration and clitoridectomy, which have been practiced abroad, but without marked success, in a certain number of insane females, especially in cases of hysterical or climacteric insanity. In this connection, we are reminded of the fact that in sympathetic insanity, and particularly in that connected

* Since the above was written numerous cases have been reported in medical publications, of favorable results in myxœdema from injections of thyroid extract, and from thyroid transplantation or grafts.

with genito-urinary affections, an appropriate surgical intervention (ablation of tumor, cauterization, application of a pessary, etc.), has often caused the disappearance of the concomitant psychic symptoms.

Blood-Letting. Transfusion.—Bleeding, formerly much resorted to, has to-day, as we are aware, fallen into disuse, and if it was carried to excess then, we may say that it is now too little employed. In certain cases when the congestive condition of the brain is manifest, there should be no hesitancy in practicing bleeding or of applying leeches either to the head or the arms.

Transfusion has hardly been employed, so far as I know, in the treatment of insanity. The operation is too complicated and the indications for its use too restricted for it to be of advantage in any but very exceptional conditions.

Hypodermic Injections.—The hypodermic method that has rendered such great service to ordinary medicine, tends to come more and more into use in mental medicine. Already for a long time M. Aug. Voisin has recommended morphine injections in full doses almost as a regular treatment of insanity. We also use subcutaneous injections of cocaine in melancholia (Morselli and Buccola); injections of ergotine and ergotinine in the congestive attacks of general paralysis (Christian, Girma, Descourtis); and finally injections of hyoscyamine, hyoscine, and

duboisine against the agitation of mania. The hypodermic method is the better for the insane in that it overcomes their very frequent refusal to take medicine.

Before closing the subject of the hypodermic method I will say a word as to the application to mental medicine of Brown-Séquard's procedure, that is, the subcutaneous injection of the testicular extract. This procedure is at the present time very actively criticized and even ridiculed, but it would be rash, nevertheless, to affirm that it can never give any positive results. As regards psychiatry in particular, it appears from the experiments of Professor Mairet of Montpellier (*Bull. Médical*, 1890), that the testicular liquid has a favorable influence in melancholia by the excitant or especially the tonic action of this fluid on the nervous system. I believe, for my own part, that, if the revivifying effects attributed to this method are real, it is in neurasthenia, the malady *par excellence* of nervous exhaustion, and in psychic and physical asthenia, that they ought to appear, and I have considered the possibility of making trials in this direction, with of course all due cautions and reservations.

Lavage of the Stomach.—In 1880 I recommended the washing out of the stomach for the relief of sitiophobia, or refusal of food on the part of the insane, and this measure has given good results to all those who have tried it with me. Since then I have

endeavored to extend this method to the treatment of the melancholia itself, which arises, as we are aware, very frequently from digestive disorders, especially from a gastro-intestinal auto-intoxication, and in very many cases I have been able, while relieving the bodily symptoms, to concurrently ameliorate the mental condition. The capital indication that dominates this method is to find out by previous chemical examination the exact composition of the gastric juice, and consequently the nature of the co-existing dyspepsia. This prior investigation indeed should guide us as to the liquid to be injected. Since most of these liquids, especially the antiseptics, are insoluble, my friend, M. Martial, has been kind enough to furnish a series of formulæ, forming, so to speak, the posology of gastric lavage. They will be found further on, in the list of therapeutic receipts which terminate this chapter.

Forced Alimentation or "Gavage" of the Insane.—It has been said already that some of the insane, mainly of the melancholiacs, hypochondriacs, and the cases with delusions of persecution, obstinately refuse all nourishment. This is what we have designated as sitiophobia. In these cases we are compelled to make them take food, and for this purpose have recourse to forced alimentation.

Forced feeding of the insane includes a host of methods of every kind and order. The most practical, and we may say the only one used in rebellious

cases, is œsophageal catheterization. I will not describe this in detail, but will confine myself to stating here the principal peculiarities of the manipulation.

Œsophageal catheterization in the sitiophobes should always be practiced by the nasal fossæ and not through the mouth, on account of the difficulties met with in the latter method. The patient should be seated or laid on a bed, the head sufficiently elevated by means of pillows. If he is too violent he can be restrained with a camisole or held by attendants.

The instrument that should be employed as best for the purpose is a thick-walled rubber tube of a callibre of 20 to 24 millimeters and of considerable length. After dipping it into warm water the operator takes it like a pen in his right hand at a distance of some centimeters from its lower extremity, and introduces it gently and gradually into the nostril; with the left hand he covers the patients eyes to prevent his watching the movements and thus preventing to some extent his voluntary resistance.

The principal difficulty in catheterization is the arrest of the tube at the base of the tongue, which the patient frequently holds applied against the posterior wall of the pharynx. This is a very serious obstacle. The difficulty is overcome by suddenly injecting a little water into the free nostril: the reflex movement of swallowing thus produced, opens a

passage for the tube which then glides down if the favorable moment is taken advantage of.

As regards the diagnosis of the tube taking a false route into the air passages, its necessity, fortunately, does not often occur. Nevertheless it may happen. We may be sure that the tube is in the œsophagus, when it passes without effort and smoothly in a smooth passage free from asperities, and is passed, *in spite of its considerable length*, clear to its end; when there is no embarrassment of respiration nor raucousness of the voice even when we obstruct the tube; and finally when we hear the peculiar noise of the exit of the gas from the stomach at the opening of the tube. For greater safety, and too much precaution cannot be employed, we may, before the injection of food, turn a few drops of water into the tube and notice the effect. If no spasm of coughing and nausea is produced with congestion of the face and efforts to get rid of the liquid, we may be almost certain that the sound is in the œsophagus. *A la rigueur*, we may use either the sound I proposed under the name of *sonde d'épreuve*, or the more recent one of M. Raspail, but this method, I admit, is not as practical as might be wished.

The catheter introduced, the alimentary liquid is injected, but is preceded each time, according to the indications laid down, by washing out of the stomach. Formerly I employed a stomach pump for this purpose, but have long since replaced this slightly complicated apparatus, with a simple Faucher tube,

fitted at its loose end by means of a glass tube to œsophageal sound and by its other to an ordinary funnel. I thus successively and conveniently do first the washing out of the stomach, and then the injecting of the alimentary fluid.

The nutritive liquids, prepared in advance and warmed to the temperature of the body, should be made up of varied mixtures of milk, bouillon, eggs, peptones, and meat-powders, Adrian's complete food, chocolate, wine, cod liver oil, etc., to which we may add, according to the case, tonics, preparations of iron and other drugs that seem necessary. I give, further on, from Lailler, a formula for alimentary liquid for the feeding of the insane,

The operation should be repeated, at least twice a day.

Pharmaceutical Agents.

The medicines used in the treatment of insanity are very numerous, and their number increases daily. Instead of giving here a dry and necessarily incomplete list, it seems to me preferable to give first a word as to the chief classes of these medicaments, and then to add a short therapeutic formulary of the better preparations suited to each type of the disease.

Purgatives.—Purgatives have been always employed in the treatment of insanity. They are used either to combat constipation, so frequent in the insane, or to act by a salutary derivation on the intestinal canal. We may employ indiscriminately all kinds of purgatives and the best are only those that

are easiest administered; in many cases, nevertheless, it is advisable to employ drastics, and especially pills with a basis of aloes, which have the effect to congest the rectum and occasionally may even re-establish a suppressed hemorrhoidal flux.

Sedatives. Hypnotics.—Hypnotics and sedatives are, with purgatives, the drugs most frequently employed in the treatment of insanity. Formerly hardly any others than opium and morphine were in use, but of latter years therapeutics has been enriched with a number of different agents, at once less dangerous and more efficient. Of this number I will cite the alkaline bromides, choral, paraldehyde, sulfonal, methylal, hypnal, hyoscyamine, hyoscine, etc.

Tonics. Antiperiodics.—Tonics, such as quinine, arsenic, alcohol, iron, bitters, are of great value in the insane, who are often subjects of anæmia. Sulphate of quinine has been recommended in certain periodical psychoses, notably in double form insanity and in malarial insanity where it seems to have had good effects.

Diffusible Stimulants. Haschisch. Emmenagogues.—Among other drugs suitable for more or less frequent usage in the treatment of insanity, I will mention the stimulants, alcohol, coffee, tea, certain special products, such as haschisch, to which has been attributed from the first, a special action on hallucinated subjects, and finally emmenagogues, which succeed very well in certain cases of insanity due to amenorrhœa or dysmenorrhœa, etc.

THERAPEUTIC FORMULARY.*

It seemed well to me to bring together here, in such a way as to be of use to the practitioner, some of the prescriptions best suited for the treatment of mental diseases. Some of them are taken from books, others have been given me by my friends MM. Carles, Cathusier, and Martial, to whom I wish to express my thanks. These formulas are classified according to the mental disorders in which they are especially indicated, but it is needless to say that they may be used, according to the case, in any other morbid forms.

MANIA.

Sedatives and Hypnotics.†

1.

Chloral, Bromide of sodium	aa 4 grams.
Syrup of orange flowers or morphine.	30 "
Distilled water	100 "

Fifty centigrams each of bromide and chloral in a tablespoonful.

1′ (YVON).

Hydrate of chloral	5 grams.
Bromide of sodium	5 "
Syrup of codeine	15 "

NOTE.—The preparations here prescribed are largely those of the French pharmacopœia. The prescriptions are, however, all intelligible and it will be easy for the physician, who wishes to use them, to make any such unimportant changes as may be required before they can be filled in this country.—TRANSLATOR.

†The best of the known hypnotics for the insane are: sulfonal, chloral, bromidia, hyoscine, hypnal, methylal, and chloralamide.

Syrup of cherry laurel	15 grams.
Distilled water	120 "

Fifty centigrams each of chloral and bromide in a tablespoonful.

2

Paraldehyde	10 grams.
Alcohol	48 "
Tincture of vanilla	.2 "
Water	30 "
Simple syrup	60 "

One gram of paraldehyde to each tablespoonful. From one to six spoonfuls.

2′ (Yvon).

Paraldehyde	1, 2. 3, or 4 grams.
Simple syrup	30 "
Water	70 "
Tincture of cloves	20 drops.

2″ (Keraval and Nercam).

Paraldehyde	2 grams.
Yolk of egg	1
Marsh mallow water	120 grams.

For an injection.

3

Methylal	4 grams.
Raspberry syrup	20 "
Distilled water	100 "

Fifty centigrams of methylal to a tablespoonful. Two spoonfuls.

3′

Methylal	1 gram.
Mucilage and water	125 "

For an injection.

4

Sulfonal	1 gram.

For one powder. From 1 to 3 powders.

4′

Sulfonal, finely pulverized	6 grams.
Powder of gum arabic	6 "
Sugar	6 "
Distilled water	60 "

One-half gram of sulphonal to each teaspoonful. From one to three teaspoonfuls.

5 (BROMIDIA).

Chloral hydrate	10 grams.
Bromide of potassium	10 "
Extract of hyoscyamus	10 c'grams
Extract of cannabis	10 "
Distilled water	30 grams.

One teaspoonful every hour till sleep is produced. Give in one-half glass of sweetened water.

6

Urethan	10 grams.
Syrup of orange flowers	30 "
Distilled water	120 "

One gram of urethan to a tablespoonful. From one to four.

7

Chloralamide	10 grams.
Elixir of Garus	50 "
Distilled water	100 "

One gram of chloralamide to the tablespoonful. From 1 to 4.

8 (LAILLER).

Hypnone	20 drops or 50 centigrams.
Alcohol	20 grams.
Cherry laurel water	5 "
Syrup of orange flowers	275 "

Sixty grams contain 4 drops of hypnone.

8′ (LAILLER).

Hypnone	40 drops or 1 gram.
Alcohol	40 grams.
Cherry laurel water	5 "
Syrup of orange flowers	255 "

Sixty grams contain 8 drops of hypnone. If only a few drops of hypnone, from 1 to 4, use formula number 8, if 8 drops is prescribed, use formula number 8′. The syrup is poured out in the required dose into a 150 gram vial which is then filled with water.

9

Ural	1 gram.

For one powder. From 1 to 4.

9′

Ural	10 grams.
Alcohol	10 "
Syrup of punch	30 "
Distilled water	100 "

One gram to the tablespoonful. From 1 to 2.

10

Hypnal	1 gram.

For one powder. From 1 to 2.

10′

Hypnal	10 grams.
Alcohol	10 "
Syrup of orange flowers	30 "
Distilled water	100 "

One gram to the tablespoonful. From 1 to 2.

11

Hyoscyamine	10 milligr.
Distilled water	10 grams.

For hypodermic injections. One syringeful or more in a day.

12

Chlorohydrate of hyoscine	10 milligr.
Distilled water	10 grams.

From $\frac{1}{4}$ to 1 syringeful. Commence with $\frac{1}{8}$ or $\frac{1}{4}$ and keep it up till 2-5 or $\frac{3}{4}$ of a milligram is reached. The amount of 1 milligr., $1\frac{1}{2}$ or even 2 milligrams may be gradually reached, but extreme caution should be employed in the use of these large doses.

13

Sulphate of duboisine.....	10 milligr.
Distilled water.....	10 grams.

Maximum dose 1 to 2 milligrams.

MELANCHOLIA OR LYPEMANIA.

14

Treatment of Anxious Lypemania (Belle and Lemoine).

a.—Rest in bed, in complete dorsal decubitus, and as prolonged as possible.

b.—Each morning, on awaking and before eating, a glass of purgative water.

c.—Tincture of nux vomica in the dose of five drops, each day, divided into two portions and taken five minutes before each of the two principal meals.

d.—Laudanum in increasing doses, starting with five drops daily and increasing by five drops each day. Given in two doses, morning and evening.

e.—Douches with interrupted jet, of very short duration, and only after the bodily health has become good.

15 (Morselli and Buccola).

Hydrochlorate of cocaine.....	1 gram.
Distilled water.....	100 "

For hypodermic injections. From 2½ to 10 milligrams.

16

Tonic Wine.

Wine of Kola " " cinchona " " gentian " " columbo }	250 grams.
Fowler's solution.....	10 "
Tincture of nux vomica.....	5 "

M. S. One liqueur glassful twice a day at meal times.

17

Tonic Pills.

Extract of cinchona	5 grams.
" " Kola	5 "
" " rhubarb	2½ "
" " nux vomica	50 centigrams.
Arseniate of iron	20 "
Powder of Kola	9.5 "

For 100 pills. Four pills per diem.

18

Gastro-Intestinal Antisepsis.

Beta-napthol (precipitated)	10 grams.
Salicylate of bismuth	10 "

For 20 powders. Two a day.

19

Medical Washes for the Stomach.

a.—Cases of hyperacidity. First antiseptic washing out of the stomach with:

Creoline	1 gram.	Emulsion.
Bicarbonate of soda	6 "	
Water	1,000 "	
Or: Phenic acid	1 gram.	Solution.
Glycerine	10 "	
Water	990 "	
Or: Thymic acid	1 gram.	Solution.
Glycerine	10 "	
Water	990 "	
Or: Corrosive Sublimate	10 c'gr's.	Solution.
Water	1,000 gr'ms.	

Then wash out with alkaline water, or simple alkaline lavage without antiseptics.

b.—Cases of anachlorohydria and of dyspepsia from fermentation. First, antiseptic lavage of the stomach with:

Salol or pulverized naphthol	4 grams.	Suspension.
Water	1,000 "	
Or: Resorcine	3 to 5 grams.	Solution.
Water	1,000 "	

Or: Oxygenated water.

Or: Iodoform, or pulverized iodol 1 gram. } Suspension.
Water..... 1,000 " }

Or: Permanganate of potash... 10 cen'gr. } Solution.
Water..... 1,000 grams. }

Or: Sodic phenol (phenate of soda) 10 grams. } Solution.
Water..... 1,000 " }

Or: Salicylic acid..... 2 grams. } Solution.
Water..... 1,000 " }

Or: Boric acid..... 6 grams. } Solution.
Water..... 1,000 " }

Or: Sulphate of copper (pure).. 25 cen'gr. } Solution.
Water..... 1,000 grams. }

Then washing out with acid wash:

Hydrochloric acid..... 4 grams. } Solution.
Water..... 1,000 " }

Or: Lactic acid..... 20 grams. } Solution.
Water..... 1,000 " }

Or acid drink with:

Hydrochloric acid..... 2 grams.
Simple syrup..... 100 "
Alcoolature of oranges..... 40 drops.
Water..... 890 grams.

Or: Lactic acid..... 10 grams.
Simple syrup..... 100 "
Alcoolature of oranges..... 40 drops.
Water..... 890 grams.

20 (LAILLER).

Alimentary Liquid for Forced Feeding.

Eggs..... 4
Milk..... 2 litres.
Claret..... 250 grams.
Meat powder..... 30 "

DOUBLE FORM INSANITY.

21 (HURD).

a.—In the excited stage, hyoscyamine or hyoscine hypodermically. (See numbers 11 and 12).

b.—In the depressed stage:

Citrate of Caffeine.....	1 gram.
Syrup of codeine.....	30 "
Distilled water.....	90 "

Tablespoonful every hour.

Or: Caffeine.....	2½ grams.
Benzoate of soda.....	2½ "
Distilled water.....	6 "

For hypodermic injections.

PARTIAL INSANITIES.

Insomnia of Hallucinated Cases.

22 (LUYS).

"Julep gommeux".....	160 grams.
Syrup of chloral.....	50 "
Ergotine	30 centigrams.

Tablespoonful every hour.

NEURASTHENIA.

23 (DUJARDIN-BEAUMETZ).

Ferro-potass. tartrate..... } Extract of cinchona..... }	aa. 10 grams.
Strychnia.....	5 centigrams.

For 100 pills. 2 to 4 daily. Use also tonic preparations (Nos. 16 and 17).

Sexual Neurasthenia (BEARD AND ROCKWELL).

24

a.—Tonic:

Strychnia.....	15 milligrams.
Phosphorus.....	15 "
Extract of Indian hemp.....	12 centigrams.
Porphyrized iron.....	2 grams.
Powder of rhubarb.....	4 "

M. Make into 25 pills. 3 daily.

b.—Sedative:

Bromide of zinc	} aa.	1 gram.
Valerianate of zinc		
Oxide of zinc		
Conserve of roses		q. s.

For 20 pills. 3 each day.

GENERAL PARALYSIS.

For the Congestive Attacks.

25 (Tauret).

Ergotinine	5 centigrams.
Lactic acid	10 "
Distilled water	5 grams.
Syrup of orange flowers	995 "

Contains ¼ milligram of ergotinine to each teaspoonful.

25′ (Tauret).

Ergotinine	1 centigram.
Lactic acid	2 "
Cherry laurel water	10 grams.

About one milligram of ergotinine to a hypodermic syringe. Dose: from ¼ milligram to 1 milligram.

26

Treatment of the Decubitus:

a.—Erythematous period.—Classic application of diachylon plaster to prevent contact of the skin with the surface of the bed. Billroth advises soap plaster as follows:

Soap plaster	50 grams.

Spread on a piece of soft leather or fine cloth.

b.—Gangrenous period.—The separation of the slough is facilitated by tampons of wadding soaked with antiseptic applications like the following:

Phenic acid	5 grams.
Olive oil	300 "

Or we may dust the surface with finely pulverized iodoform and cover with iodoform gauze, or we may employ compresses saturated with:

Permanganate of potash	60 centigrams.
Distilled water	500 grams.

Chapter V.

MEDICO-MENTAL DEONTOLOGY.

It sometimes happens in professional practice that the physician is consulted in regard to certain delicate questions bearing especially on the heredity of alienation and the results that may follow in the families of the patients. The rôle of expert is not always an agreeable one in these cases, nor is his intervention altogether easy. It seems worth while therefore to indicate some of the points the knowledge of which may facilitate his task in such a case. The principal questions to be answered in this connection are the following: (1) That of the sexual relations between an insane person and his or her consort; (2) The chances of heredity of the different members of the family of an insane person; (3) The marriage of the insane and of those related to them.

1. *Sexual relations between the insane individual and his or her married partner.*—The solution of this question, which is often very embarrassing, may be imposed upon the physician under two quite different conditions: *a.*—during the existence of the disorder itself; *b.*—after its cure.

a.—In the first case we have to deal either with an individual who is being treated in some way or

other at his home and who lives in more or less close contact with his family, or with a patient confined in a special establishment, and who, for various reasons, is permitted interviews and promenades with his or her consort. As a rule the physician is not consulted in regard to their conjugal relations, which take place or not without his intervention; occasionally, nevertheless, he is called upon to give his opinion as to their safety and the inconveniences to which they may give rise. The response of the medical adviser in such cases should be positive; it is self-evident that he ought to formally prohibit all sexual relations between the parties, not only as a cause of excitement or exhaustion of the patient, but also as dangerous in view of possible procreation; it being, in fact, admitted that children of a parent deranged at the time of conception are especially exposed to become insane. This, moreover, is one of the thousand reasons why isolation is necessary in cases of this kind, as, while the insane person continues to live with his family, difficulties of every kind are met with and it becomes less easy to successfully oppose his desires and inclinations. In any case it is the correct thing to absolutely forbid sexual relations between two persons, one of whom is at the moment suffering from an attack of insanity.

b.—The case is different after the patient has recovered, and it seems to me altogether arbitrary to oppose, as has sometimes been done, and recently in

a case under my own observation, the legitimate demands of an individual restored to reason, and consequently in full possession of his conjugal rights. I certainly do not ignore the fact that sexual relations of ex-insane individuals are dangerous in a social point of view, but in spite of all considerations, it is not evident that we have any right to restrain them, any more than we have in the case of a consumptive or any other individual the subject of a diathesis transmissible to his descendants. If mental derangement has its dangers, the constitutional diseases of a physical order have theirs also, and we cannot make an exception as regards the former, which shares the common rights. The physician should bear this in mind when called to give his opinion on this point. It is his duty, nevertheless, to act with prudence and to try to attenuate, to some degree, the possible consequences of sexual approaches in such conditions, by delaying them till the cure is absolute, and by advising the patient in the interest of his future health, to use the greatest moderation in the accomplishment of his desires. As to those methods of rendering the conjugal relations without effect as regards procreation, too much employed at the present time, I do not believe that it appertains to the physician to intervene in regard to them, still less to advise their use, in these cases; since here we touch a very delicate point and one that is completely outside of the medical jurisdiction.

2. *Chances of Heredity of various members of the Family of an Insane Person.*—In a session of the Medico-psychological Society, Billod judiciously brought up the following question of medico-mental practice: "What should be our conduct when consulted by a person who believes himself threatened with insanity because he is the offspring of insane parents?" This communication and the succeeding discussion resulted in the rather general conclusion that the duty of the physician in such a case is to reassure his client, while at the same time maintaining a great reserve. It is true that this is, in fact, the position the physician ought to take, and that he ought no more to increase the fears of a child of an insane person than he should, for example, those of the offspring of a consumptive who fears that he in turn may become tuberculous. This, however, is only a general indication, and the question has other aspects that have been passed over in silence, but which, nevertheless, it is useful to solve. Thus we may be consulted not merely by the descendant of an insane person: it may not be the interested party himself, but one of his near relatives or his wife; by a mother, for example, who is disquieted about the future of her child, or by a wife who wishes to know the dangers that threaten her husband. In short, cases may happen where the physician is compelled not to reassure but to speak with freedom and to make the reasons for his opinion appreciable. On the other hand, it seems to me that his answer should not

be indiscriminately the same for all cases, and that he ought not, for example, to apply the same pathological probabilities to the descendant of a general paralytic as to the son of a lypemaniac or a subject of delusions of persecution, for the simple reason that the different forms of derangement do not expose all to the same degree or type of heredity. It is right, therefore, when called upon to decide the question of the chances of heredity in mental alienation, to not limit oneself to the task of allaying more or less well founded apprehensions, but to formulate a scientific and rational opinion based in particular upon certain considerations relative to (*a*) the person inquiring; (*b*) the one about whom inquiry is made; and (*c*) the form of mental derangement that exists.

(*a*).—As regards the person making the inquiry, there are, properly speaking, no special considerations to be kept in mind and the general principles of propriety that apply in ordinary medical practice are equally applicable in mental medicine. It suffices to say that when one is consulted by the interested party himself, it is frequently necessary to dissimulate and to avoid darkening the future, since even the distant prospect of dreaded evil may be, so to speak, fatal. On the contrary, when we are dealing with another than the one directly involved, we can express ourselves more unreservedly, especially if the object is to institute a preventive treatment capable of lessening to some extent the chances of insanity.

(*b*).—The considerations relative to the person whose chances of heredity are involved are derived chiefly from his degree of relationship with the insane person or persons existing in the family line, and also from his bodily and mental constitution. It is clear that the closer the relationship is the greater are the chances of heredity. The son and daughter are therefore more exposed than the brother and sister, these again more than the nephew and niece, and these last more than the cousins in all degrees. The children also are more exposed when insanity exists in the mother than when it is in the father, and among the children of the same insane parent, those born at a period nearest the parents insanity have also the more chances against their future. Lastly, it is claimed that insanity of the father is more frequently transmitted to the daughters and that of the mother to the sons, a fact that is far from being demonstrated; neither is it established sufficiently that the children who physically resemble one of their parents also take after that one in a psychic point of view, and in consequence have a more marked tendency to inherit his or her mental disorders.

As regards temperament, the bodily and mental constitution of the party interested, it is clear that we have here an important element and one that should be duly estimated in the calculation of the morbid probabilities for the individual. We are well aware that all the members of the families of the insane are

not alike doomed to become insane, and that, together with ill-balanced or insane members, there are others whose mental make up is normal and not in the least degree affected. But among these different types of which these families are composed, it is, as a rule, rather easy to distinguish those of healthy mental constitution from the candidates for insanity. These last may be marked, even at a very early age, by an absolute lack of equilibrium in their faculties, by a lack of balance and harmony, the absence of sequence in their ideas and of logic in conduct, by a manifest predominance of the nervous temperament, a morbid impressionability, a marked tendency to excitement or depression from the slightest causes, sometimes alternations of excitement and depression. The others, on the contrary, are always well poised and masters of themselves, and we realize in their presence that they are normal individuals, sharing little or none of the pathological heritage. The difference will be still more pronounced if the children of the insane already arrived at adult age have their temperament clearly marked; the ones have already given evidence of some cerebral trouble either at an early age or, what is more frequent, at puberty or the first serious emotions of life; the others, on the contrary, have already passed the various stages without having felt the least mental disturbance or undergone the slightest moral shock. In a word, it is necessary to submit the individual in regard to whose future we are consulted, either directly or

indirectly, to a minute psychological analysis, just as we would submit to an attentive pulmonary examination any descendant of a consumptive who might be disturbed as to his lungs.

(*c*).—The most important element however in this question is, without dispute, the study of the type of mental alienation in the case.

First of all, is it an isolated case, unique in the family, or, on the other hand, are there many similar ones, giving evidence that the evil is already deep-rooted and that the taint is destined to be transmitted from generation to generation? Does the mental alienation exist on one side only, or on both, paternal and maternal, at the same time? Are there already in the existing generation to which the suspected person belongs, any examples of eccentricity, neuroses, insanity, mental degeneracy, or on the contrary are the signs those of a normal constitution? Was the disease of the ancestor purely an unforeseen accident, occasioned by powerful causes altogether personal in their nature, or, on the other hand, did it appear under the influence of some trivial cause, acting on an already existing predisposition? All these are so many important points which call for close attention.

Lastly, and this is a capital point, in my opinion, although it was not taken into account in the discussion cited above, it is important to specify clearly, before pronouncing an opinion, the charac-

ters and the form of the mental derangement that existed in the ancestors. We are not to think, in fact, that it is a matter of indifference, as regards morbid consequences, whether we have to deal with this or that form of insanity, and the memoirs on heredity and on the biological constitution of families that have followed those of Lucas, Morel, Moreau (deTours) have already clearly laid down the fundamental distinctions that are usefully applicable in this point of view in practice.

We know, in the first place, that certain forms of mental alienation predispose more than others to heredity, and that suicide, double form insanity, the reasoning insanities, intermittent or periodical insanities, to mention only these, almost inevitably expose the descendants, while certain others, like acute mania and melancholia compromise the future of the family to a much less degree. We are also aware, and this is what M. Ball and I have especially endeavored to show in our work on the biological characters of the families of the insane, that heredity, in mental alienation, presents itself under three morbid types with clearly defined characteristics, although similar in appearance: (1) the *neurotic* or *neuropathic type* which originates in the neuroses, and gives rise to neuroses and neuropathic insanity; (2) the *cerebral* or *congestive type*, originating in cerebral disorders, properly so-called, and giving rise to cerebral affections, complicated or otherwise

with insanity; (3) the *vesanic type*, originating in the vesanias or insanities, properly so-called, and giving rise also to vesania, that is, to pure insanity. The special evolution of the morbid manifestations of each of these hereditary types, permits therefore, to a certain extent, the foretelling to what category of mental disorders the members of a family are particularly exposed. Thus, for example, when the individual in any special case of inquiry is a descendant of a general paralytic, the answer of the physician will not be the same as when questioned in regard to the son of a vesaniac. The following are the terms in which M. Ball and I formulated our opinion in this regard: "Thus general paralysis does not arise from insanity and does not engender insanity. Like the cerebral diseases, it is born of cerebral affections and gives rise to the same."

"It follows that general paralytics, not being descendants of the insane nor producing lunatics, the children of these patients escape vesanic heredity, and that if they are doomed to a special class of diseases by reason of the general paralysis of their father or their mother, it is evidently not to insanity but to cerebral affections of all kinds.

"Thus, when consulted, and this happens daily, in regard to the future of a child of a general paralytic, the opinion of the physician should be the direct opposite to that usually given by practitioners or even by specialists more acquainted with these

subjects, namely, that the child of a general paralytic, by the mere fact that he is a general paralytic is in no way predisposed to insanity, that he has only to fear from predisposition cerebral disorders, and that therefore the two critical periods of his life are infancy, on account of the tendency to infantile cerebral disorders at this time, and adult age, the period for cerebral paralysis and for general paralysis itself.

"Altogether the future is thus much more reassuring, with the more reason since, very different from the families of vesaniacs in which cases of insanity are constantly on the increase, the families of paralytics rid themselves in infancy of their worse contingent and are purified, so to speak, under the influence of infantile brain disorders; so that these families are thus regenerated, if we can so express it, by a sort of morbid selection, and what remain of the descendants of the paralytics may be considered as almost normal."

On the other hand, if we have a family in which are many cases of insanity, properly so-called, or vesania, we have also to fear vesania in the descendants, from the fact that in vesanic heredity it is the repeated aptness to insanity that constitutes in each generation the characteristic of its morbidity. The same is true of the families of the neuropaths or neurotics, in whom the type of neuropathic heredity reveals itself with its special characters.

It is sometimes possible, however, to carry scien-

tific induction still farther in the calculation of the morbid probabilities. It is not only possible to almost certainly determine in advance to which of the three types of heredity the individual in question belongs, but also, in special cases, to just what variety of insanity he is most likely to succumb. Thus, for example, the children of suicides are often impelled to suicide themselves, and the children of subjects of double form insanity are also liable to have the same form as their progenitor in preference to any other.

It will thus be seen what interesting considerations arise from these questions of medico-mental deontology. Also, although the biological study of the family history of the insane of these different types has hardly been more than touched upon, the practical conclusions we can deduce from the facts gained are already very important, and enable the physician, in the cases we have in view, to formulate a scientific and rational opinion, and not merely a response, empirical so to speak, and made solely to reassure the interested parties.

3. *Marriages of the Insane and Relatives of the Insane.*—The physician may be consulted as to the propriety of marriage, in psychiatric practice, either relative to the insane themselves or their relatives.

a.—As regards the insane, it is mainly with those that have recovered from their insanity that we have

to do, since the marriage of a lunatic during the existence of his disorder could hardly be suggested except under very unusual circumstances. Some cases have occurred, nevertheless, where the marriage of insane persons confined in special establishments has been authorized and recognized as valid, as was shown in the interesting discussion that occurred on this subject in 1876 in the Société Médico-psychologique. As regards non-sequestrated lunatics, their marriage presents much fewer difficulties, and cases exist, as, for example, a union *in extremis* intended to correct an abnormal situation, and, as under some other circumstances still, where the doctor can give his approval to such a marriage. But, apart from these altogether exceptional cases, the practitioner should be prudent and should keep himself apart from marriages of lunatics, which often conceal interested motives and unavowable speculations.

The question of the marriage of a recovered lunatic occasionally comes before us, and Morel says, in this connection, that he has been able to decide boldly in favor of it, when the individuals concerned had no case of insanity in their ancestors and when their disorder broke out under the influence of a moral cause personal to themselves.

It should be added that the marriage can hardly be approved of in these cases, except when the insanity was merely an acute attack of melancholia or especially of mania, the only forms of mental alien-

ation of which recovery may be sufficiently certain to not compromise the future of the ex-lunatic. Nevertheless, however accidental the attack of insanity, and however little hereditary it may appear, the physician ought conscientiously to formulate some reservations even while giving a favorable opinion.

It is chiefly in regard to the marriage of the relatives of the insane, however, that the question is raised in medico-mental practice. Usually it is the descendant of an insane person who inquires, or for whom a relative asks whether or not he can marry with impunity, and, still more commonly, a strange lady who wishes to know in behalf of one of her family whether she can seek an alliance with the descendant of a lunatic. Here is a delicate matter, and one in which the physician cannot exercise too much circumspection and too much reserve. As in case of the preceding question, he ought to chiefly base his answer on considerations relative to the person inquiring, the party interested, and the malady in question.

When the person chiefly interested is the one who consults, the condition is frequently embarrassing, since the physician cannot have with him his full liberty of action. He ought, therefore, to try, under some pretext or other, in this case, to consult with some other member of the family, with whom he will find himself in a more independent situation. In case, moreover, where this is impossible and the physician finds himself obliged to advise against marriage to a descendant of a lunatic, he should support

his opinion with the argument that although altogether free from the disorder of his father or mother, the individual runs the risk of transmitting the predisposition to his own offspring by a fact of atavism, and that in consequence it would be better for him to abstain from marriage. He may also try to induce him to defer his marriage when it is possible, and to wait till the period when mature age has placed him to a certain extent beyond the risk of acute attacks of insanity, which are much most frequent in youth. Finally, when the case requires it, he can base his prohibition on some other morbid peculiarity, for example, a too feeble physical constitution, or a moral temperament ill fitted for domestic life.

When it is a father or mother or some more distant relative that consults in behalf of the party interested, we can be more frank, while still maintaining some reservations. It will be permissible, nevertheless, to express one's opinion with more freedom.

Finally, it may happen that strangers come to demand of the physician an opinion as to whether they can, without peril, permit for one of their family an alliance with the offspring of a lunatic. It is understood that I do not refer here to any strangers that might ask the practitioner to commit an indiscretion or violate medical confidence, but to persons already in relations with the family of the interested party, and who come with its authorization to inquire in regard to a matter in which they are deeply inter-

ested. In this case the physician is free to act since he has permission to express himself freely, preserving of course all the reserve and delicacy that should never be lacking in matters of this nature.

As to the considerations relative to the interested party himself and to the form of derangement existing in his family, they are exactly the same as those brought out in the preceding question, since here again it is the estimation of the chances of heredity that is asked for. We will pass therefore in review the degree of the relationship of the individual with the insane patient, his constitution, his temperament and his antecedents, as well as the characters of multiplicity, of intensity of origin, and of form of the mental derangement that existed in the ancestor. Especially will we not forget the distinction we have made between the three different forms of heredity nor to deduce the consequences that follow from it. Thus, for example,—I again quote from our memoir —"if one is consulted on the subject of a union to be contracted by or with a descendant of a general paralytic, he may boldly give to that union his medical and scientific approbation, by affirming that general paralysis is solely a cerebral disease, and for that reason does not create a predisposition to insanity in the descendants."

And, if it is required of me, in concluding, to sum up in a few words the practical consequences of this biological study we have made, I would say:

"If one wished to save his children from the sad

inheritance of insanity he might with impunity, I believe, enter into the family of a general paralytic, but it is always dangerous in this case to espouse the daughter of a lunatic."

It is not a matter to be neglected when we come to pronounce in regard to the safety or propriety of the marriage of the descendant of an insane person, to study, as far as possible, the family with which he thinks of allying himself, and especially the temperament of his future consort. It is clear, in fact, that the union will offer much fewer dangers, as regards the offspring, in cases where the marriage produces a happy crossing, while the existence of a like predisposition in the future married pair will, on the contrary, be a formal indication for the scientific opposition of the physician.

Such are the principal questions of medico-mental deontology that the physician is called upon to solve in practice. Still others might be presented, but their importance is less great, and they therefore do not seem to me to call for a special study.

SECOND SECTION.

MEDICO-LEGAL PRACTICE.

While the *medical practice* of mental alienation has not, prior to the present period, been the subject of special works, *medico-legal practice* on the other hand has always attracted the attention of observers, and there exist in this department a considerable number of very important works, from the treatises of Zacchias, Hoffbauer, Fodéré, Mittermaier, Georget, Marc, Casper, down to the more recent ones of Bonnucci, Tardieu, Legrand du Saulle, and Krafft-Ebing, without mentioning the articles scattered through the cyclopedias and reviews, among which I will cite only those of M. J. Falret, of Linas, of M. Motet and M. Ritti.*

Also, without entering into historical developments or scientific discussions, for which we refer the reader to the works already cited and to the majority of the general treatises on legal medicine, we confine ourselves to summing up in a practical

*Consult also, for the general questions relative to the legal medicine of insanity: Maudsley, *Crime and Insanity;* Max Simon, *Crimes et Délits dans la Folie;* Cullerre, *les Frontières de la Folie;* Parant, *la Raison dans la Folie;* Ball, *Leçons sur les Maladies Mentales*, 2d edition; Féré, *Dégénérescence et Criminalité;* Lombroso, *L'Homme Criminel;* Tarde, *Criminalité Comparié;* Coutagne, *la Folie au point de vue judiciare et administratif;* the works of Garofalo, Ferri, Sergi, lastly the Comptes Rendus of the International Congress of Legal Medicine, Mental Alienation and Criminal Anthropology.

point of view, the principal points in legal medicine of insanity that are likely to interest practitioners and magistrates as well as specialists themselves.

The legal medicine of insanity divides itself naturally into two parts, corresponding to the two great divisions of the law: (1) the part relative to the criminal law; (2) the part relative to the civil law.

The first two chapters which follow are devoted to the study of the more important questions of criminal legal medicine, the third and last chapters to those relating to civil law.

NOTE.—This chapter on the Civil Code, referring as it does exclusitely to French law and practice, as well as a former chapter on the French law of commitment for insanity are omitted, by permission of the author, from this translation.

Chapter First.

CRIMINAL CODE.

I.—PENAL RESPONSIBILITY OF THE INSANE.
II.—CRIMES AND MISDEMEANORS OF THE INSANE.

I.—Penal Responsibility of the Insane.

Absolute Irresponsibility. Partial Responsibility.—Every crime or misdemeanor is composed, says the legislator, of the act and the intention, but no criminal intent can exist in an accused person who has not the exercise of his moral faculties; and freedom from penalty of the law should be granted any man when disease has enervated his intelligence, obscured his judgment, perverted his conscience, disordered his reason, and deprived him of his free will. A single article of the Penal Code (French) lays down in unmistakable and vigorous language these eternal principles of moral justice, and preserves the lunatic from the rigors reserved for the criminal. Article 64: "*There is no crime or misdemeanor when the accused was in a state of dementia at the time of the act, or when he has been under the compulsion of a force he was unable to resist.*" It is not necessary to add that, under the generic term of *dementia*, the law understands not only the form of

mental derangement that bears that name, but all mental alienation, whatever may be its form. "By *dementia*," say MM. Adolphe Chauveau and Faustin Hélie, "we must understand, since no text has limited its meaning, all the diseases of the intellect, idiocy and dementia, properly so-called, delusional mania and mania without delusions (that is affective mania), even when partial. All the varieties of mental disease, whatever the name science may apply to them, whatever their classification, carry with them the power of excusing the act, and acquit the accused, provided that their influence on the act can be presumed."

The French law, therefore, absolves the lunatic from responsibility for his actions. All legislation, moreover, since the morbid nature of insanity has been recognized, has admitted the criminal irresponsibility of the insane, and it is, therefore, needless to discuss here the great principle of human freedom and the conditions of the loss of free will in beings deprived of reason. We must, nevertheless, notice the disagreement of late years relative to the degree of responsibility in some forms of mental derangement: many authorities admitting, with M. Legrand du Saulle, that if certain of the insane are completely irresponsible for their acts, others are only so in part, whence the names of *partial*, *proportional*, and *attenuated* responsibility given to this latter condition; other authorities maintain vigorously, on the contrary, with M. J. Falret, the absolute principle

of entire irresponsibility in insanity, whatever may be its form.

The arguments presented by these last and especially those of M. J. Falret, who has supported his opinion with rare talent, seem to me to settle the question and to clearly establish that in law as in fact, every individual affected with confirmed mental derangement, is on that account, irresponsible. Beyond the fact that this doctrine, as just as it is positive, closes the door to all quantitative and individual valuations of moral capacity, and consequently to those psychological subtilties that deserve no place in legal medicine, it has still the immense advantage of substituting for those arbitrary and contradictory elements of appreciation, such as those based on the degree of knowledge of right or wrong, on the pathological nature or otherwise of the act, a positive criterion, entirely medical in character, namely, the existence or non-existence of mental derangement. With this principle of total irresponsibility, everything is reduced, in fact, to ascertaining whether or not there is insanity, and not to measuring the degree of discernment and conscious responsibility of a patient.

But if the doctrine of attenuated responsibility cannot be admitted in any case of well marked insanity, properly so-called, we often find its application, on the other hand, in certain cases of semi-alienation, where the responsibility for acts, although persisting in different degrees, is nevertheless manifestly dim-

inished. The most convinced partisans, moreover, of the absolute irresponsibility of the insane, have themselves admitted in formal terms partial responsibility in certain pathological conditions, and M. J. Falret himself says in this regard: "But if we do not admit the partial responsibility of the insane, thus understood, that is to say, as regards certain things and not in others *at the same time*, we are all disposed to admit it *at different times.* We are all compelled to say that there are moments in the life of individuals in which we must admit either their entire responsibility, as in the periods of predisposition, intermissions, or lucid intervals, or their incomplete or lessened responsibility, as in the periods of incubation, of more or less complete remission, or of convalescence. We admit also that the question of complete or incomplete responsibility may be discussed in certain states of mental disorder apart from insanity, properly speaking, such as apoplectic dementia and aphasia, hysteria, epilepsy, and alcoholism. It is within these narrow limits, apart from mental alienation or confirmed insanity that we admit partial, incomplete, or attenuated responsibility."

The principal morbid conditions in which M. Falret admits this graduation of penal responsibility, are the following:

1. The first stages of mental disease; the prodromic period or stage of incubation;

2. Apoplectic dementia and aphasia;

3. The conditions of lucid interval, of intermission, and of remission;

4. The periods of predisposition to insanity;

5. Hysteria, to which may be added somnambulism and hypnotism;

6. Epilepsy;

7. Alcoholism;

8. Conditions of imbecility or natural mental weakness.

"These," says M. Falret, "are mixed states, intermediate between reason and insanity, and in which it is permissible to discuss the degree of responsibility, to admit entire responsibility or attenuated responsibility, according to the case, and in which there is no room to apply the criterion of absolute irresponsibility, which, for our part, we recognize in all cases of really confirmed or clearly characterized mental alienation."

It seems to us difficult not to agree with the opinion so clearly stated by M. Falret, and not to admit, with him, that, in cases of pronounced mental alienation, there can be no question as to the absolute irresponsibility, partial responsibility being reserved for those conditions of mental disorder that hold a place midway between reason and insanity.

It will be understood that it is impossible to discuss here successively the degree of responsibility appertaining to the different states of semi-alienation of which we speak, not merely because

the question allows of excessive amplification, but also because we cannot lay down any general rules applicable to all cases, and that it is before all necessary to judge from particular facts. We must not forget that partial responsibility is delicate ground, a sort of compromise between science and justice, as M. Lutaud says, and that consequently the physician should use this implement only with reserve, if he wishes to extract from it all the good of which it is capable.*

We will say only a word on the degree of responsibility in remissions, intermissions, and lucid intervals.

Responsibility in the Conditions of Remission, Intermission, and Lucid Intervals.—In the states of remission, which form, as we have seen, an attenuation of the symptoms of the mental disease, the degree of penal responsibility may be discussed. But, as M. J. Falret says, the legal question is hard to decide in these cases. "Here, indeed, doubt is permissible, the question to be solved becomes one of degree, and, in consequence, the answer cannot be absolute; it cannot be formulated by regular rules and necessarily depends upon each particular case." In these cases the most resolute partisans of absolute irresponsibility can admit an attenuation of the

*We would refer more particularly, for the study of the questions of responsibility and capacity in the *mixed conditions* to the works of Charcot, Legrand du Saulle, Huchard, Pitres, Colin, on Hysteria; to those of Christian and Féré on Epilepsy; to those of Motet and Vétault on Alcoholism; and to those of Liegeois, Charcot, Brouardel, Pitres, Bernheim, Gilles de la Tourette, Bérillon, etc., on Somnambulism and Hypnotism.

responsibility proportional to the intensity of the disease or the remission. But as I have already said many times, this responsibility is not partial and complete at the same time; it does not exist for certain acts while it is suppressed for certain others; it is variable according to the times and not at the same instant; it is absent during the attacks and may be considered as complete or as simply attenuated during the periods of remission, which can be determined and pronounced by the clinical physician. The study of these remissions and their degrees, in the different forms and periods of mental derangement, is one of the most interesting subjects in the legal medicine of insanity; but this chapter is yet to be written in a clinical and scientific point of view. This study has been chiefly made in regard to the remissions of general paralysis (Baillarger, Sauze, Legrand du Saulle, Doutrebente).

As regards intermittences or intermissions, that is, the complete return to reason between two attacks of insanity, such as occurs in intermittent mania, double form insanity, etc., the question of responsibility appears under another form, since here we no longer have to do with a simple amelioration, the degree of which is to be estimated, as is the case in the remission, but with a veritable return to the normal condition. "But," says M. Falret, "in these so frequent cases, which are met with as well in the melancholiac as in the maniacal forms, the question of responsibility offers itself naturally in all its dis-

tinctness and all its rigor. A true intermission is, in reality, a temporary or momentary recovery. We ought, therefore, to apply to it the same rule as to recovery, *i. e.*, to consider the individual in this condition as possessing all his faculties, and therefore his full penal responsibility and civil capacity. The only difficulty in these cases (and it is often a very serious one) is a clinical difficulty, a question of diagnosis. The expert has to show by positive proofs that the individual examined was sound of mind at the time of the act, in a true period of intermission, in a real and not merely an apparent recovery, and not in a state of simple remission, more or less marked, or in a state of voluntary concealment of delusions such as often occurs, for example, in the remissions of insanity of persecution. This clinical problem is often very hard to solve, and is one of the most delicate points in the legal medicine of insanity. But, in principle, we cannot deny that true periods of intermission often occur in mental disorders, and that during these periods the individual should be considered as having recovered his moral responsibility and his civil capacity." This is also the opinion of most authors, and of M. Doutrebente in particular, who says himself, in this regard: "From all that precedes it is easy to conclude that during the intermission the intermittent lunatic can and should be likened to a recovered patient or to a man of sound mind, and that consequently he is in possession of his civil capacity and is

responsible for his actions; we will nevertheless, make some reservations in the case of intermissions of short duration alternating with frequent attacks of mental derangement, since, in these cases, the intermission approaches closely to simple lucid moments."

This last restriction of M. Doutrebente can be applied, for example, to double form insanity of short attacks, separated from each other only by an interval of a day or a few days of intermission.

The question is quite different as regards lucid moments, since, in these cases we have solely to do with a complete but altogether temporary suspension of the symptoms of the disease, in the course of the same attack. Here the lucidity has, so to speak, only the duration of a flash of lightning and the usual irresponsibility of the patient may be consequently considered as not being suspended.*

II.—Crimes and Misdemeanors of the Insane.

We do not pretend to give here any complete study of the crimes and misdemeanors of the insane. We desire only, in enumerating the chief of them, to indicate their general characters and their special characteristics in each of the great forms of mental alienation.

A.—General Characters.—All the crimes and all the misdemeanors, of whatever kind, may be met

*One may also consult with benefit, on this subject, the work of Max Simon: *Crimes and Misdemeanors in Insanity.* 1886.

with in mental alienation, in such a way that, as regards their nature itself, they differ in no respect from any others. The most frequent, however, are: homicide and attempts at homicide, criminal assault and rape, thefts, arson, forgery, slander, libel, simulation, etc., etc.

In certain cases the act itself and the circumstances accompanying it, bear the manifest stamp of the state of derangement of the individual who has committed it. Thus certain homicides or attempts at homicide are committed by lunatics in a condition of delirious agitation and maniacal fury that leave no doubt as to their mental condition. At other times they are the result of a sudden, instantaneous impulse, the violence and unexpectedness of which are sufficient to reveal their pathological nature. Frequently also, the misdemeanor, criminal assault or theft is so silly, ridiculous, and witless, that it bears in itself the mark of dementia. Or the lunatic takes no precaution to conceal it, and seems to choose for the accomplishment of his project a moment when he cannot fail to be caught. In other cases again, he may denounce himself, boasting of his crime or misdemeanor as if it were a perfectly natural or even a meritorious thing. In some cases he will completely forget the fact and have no recollection of his act. Finally, the crime may have no semblance of an end or excuse, as when a lunatic all at once attacks in the street some one whom he does not know, or steals some article of no possible utility to him.

But if the crimes and misdeeds that have the insane as their authors carry sometimes the special characters of their diseased origin, this is far from being always the case. Indeed, some of the insane act from perfectly determined motives, prepare and plan their misdoings long beforehand with a patience, a fixedness of purpose, an address, a consecutiveness, a talent for combination, and an amount of precaution, ruses, and calculations that might deceive the most skilful and clearsighted. Sometimes even, like the true criminals, they may deny the commission of the act or give it an appearance of reasonableness, explaining it by plausible and almost sensible motives. Nothing therefore is more incorrect than the notion, held by the majority of the public, that the criminal and unlawful acts of the insane are always characterized by want of foresight and the greatest spontaneity and absurdity. There are cases, on the other hand, where nothing at first sight betrays the morbid nature of the criminal act, and this is why the medico-legal valuation of certain acts is often so difficult to fix.

B.—Particular Characters in the Principal Morbid Forms.—One very important element of the inquiry is found in certain special characters which the crimes and misdemeanors of the insane borrow, not only from their pathological nature, but also from the form itself of the disorder in which they are observed.

We have already, in discussing the reasons that may necessitate sequestration, stated in the preceding pages the principal characters of the morbid acts in the great varieties of mental alienation, laying especial stress on those acts that most frequently caused the patients to be dangerous. We will therefore content ourselves here with pointing out certain peculiarities relating to those acts that may constitute in legal medicine an indication of some value.

Degeneracies.—The degenerates, from the simple neurastheniacs with obsessions to the imbeciles and idiots, are, above all, subjects of impulse, on account of their greater or less feebleness of will. In the higher degenerates, as Magnan calls them (ill-balanced, neurastheniacs, phrenastheniacs), there is still resistance and consciousness; in the inferior degenerates, the act becomes instinctive and, so to speak, automatic, it approaches a reflex.

The more common impulsions in neurasthenias are those to drink, arson, murder, theft, suicide, and sexual aberrations of every kind (hair cutters, collectors of female objects, rubbers, exhibitionists, platonic lovers, etc.) These impulsions take the character of emotional and conscious obsessions, and it is only after a more or less lively resistance that the patient finally gives way to them.

In the delusional and reasoning phrenasthenias the dominant morbid tendencies are, on the one hand, the tendency to private murder (reasoning persecutory

insanity), to religious or political murder (regicides), and on the other to moral perversion. Nowhere is the conception of the act more clear, more calculated, more logical in appearance and more premeditated than in this class of patients. Those more particularly affected with moral perversion, the morally insane as we call them, rarely attempt a criminal act; they are dangerous rather to the reputation and honor of individuals, since they use falsehood, dissimulation, and calumny with a consummate art, and there is nothing, in this line, that they will not invent to injure those who have gained their ill will. It is in regard to these that the medico-legal question presents perhaps the greatest difficulties, as the absence of delusion on the one hand, and the incredible skill with which they have framed their plots on the other, render the estimation of their mental condition a very delicate matter, and make the excuse of insanity very difficult of acceptation by the judges. To these patients it is necessary to compare the double form lunatics, and especially the subjects of hysteria, who resemble them closely in that their insanity is very frequently manifested under the reasoning form.

Special mention should be made of the instinctive phrenasthenias, which constitute what we call the *criminal* psychosis, and in which should be ranked the *born criminals* of Lombroso. All crimes and misdemeanors are met with in this class. The characters of the born criminals, in both a physical and a psychical point of view, have been many times

pointed out by Lombroso and his disciples, but, as we have said, they are in no way absolutely specific and do not materially differ from the other characters and stigmata of degeneracy.*

In the states of mental weakness, properly speaking, either congenital or acquired (imbecility, idiocy, dementia), the criminal or unlawful act, is usually puerile, unconscious, absurd, sometimes automatic. Murder is rather rare, at least when native infirmity of the intelligence is uncomplicated with any neuroses or acute attack of insanity. It is with offenses against decency, rape, and thefts that we have to do with in these cases. The indecent acts of these weak-minded patients may be the result of a greater or less degree of genesic excitement, in which case they bear the stamp of this super-excitation, and sometimes even of bestial violence, but more often still they are silly, absurd, and purposeless. It is, in fact, among these patients that are principally to be found the *exhibitionists* of Lasègue, i. e., patients who, without knowing why they do so, content themselves with displaying their genital organs in public.

After offenses against decency, come thefts, more frequent in dementia and absurd as in general paralysis; lastly, we may observe arson, especially among imbeciles.

Maniacal Conditions.—Crimes and misdemeanors are rare in mania, although this is the form of

*See Corre, *les Criminels*, (1889); Dortel, *l'Anthropologie Criminelle et la Responsabilité Médico-légale*, (*Thèse, Paris*, 1891).

insanity that seems most terrifying; this is because the patients are absolutely incapable of conceiving any act whatever, and they are rather destructive than really dangerous. Nevertheless, when the agitation is pushed to paroxysms of fury, it may be the cause of a homicide, accomplished under conditions of violence and hyper-excitement that leave no doubt as to their true character.

Melancholic States.—Crimes and misdemeanors are rare in states of melancholia, where we observe almost exclusively, as we have stated, the tendency to suicide. Nevertheless, homicide may be seen in exceptional cases of certain forms of acute lypemania, but then, far from having hatred or malice for its motive, it results nearly always, on the contrary, from an excess of affection or a deluded sympathy for the victim. Thus, I have seen at Sainte-Anne a woman in a condition of acute melancholia who, when she threw herself into the river with suicidal intent, took with her her two young children, so as not to leave them on earth exposed to the miseries of existence. In this case we might almost say that the insane person commits the suicide of other individuals, as with herself, in order to protect them from the torments and punishments which, she thinks, threaten them also. We may also see in melancholia indirect suicide, that is to say, an act of homicide committed for the purpose of bringing about the death of the one committing it, either on account of

dread of killing himself, or in order that he may have time for repentance.

Partial or Systematized Insanities.—In the systematized insanities, homicide is the leading offense, and we may say that it is most frequent in this type of mental disorder.

The deluded mystics, as we have seen, often believe they have received a commission from heaven to kill some more or less prominent personage, who they think represents the cause hostile to God on earth, and then they coolly, with calculation and premeditation, assassinate that individual; more frequently they immolate in sacrifice their own children; or even the first persons they meet, persuaded that in so doing they are in some way pleasing the Deity. Their prophetic and inspired attitudes, their delusions, and even the circumstances of their act are enough, as a rule, to cause the recognition of their insanity, although their apparent lucidity, and the calmness and the reticence behind which they intrench themselves, sometimes make the forming of an opinion somewhat difficult.

The subjects of persecutory delusions, as we have not ceased to reiterate, are, of all the insane, the most dangerous. With them, homicide is chiefly to be feared; because, believing themselves the butt of their imaginary persecutions and considering themselves the victims of an organized conspiracy into which enter a more or less considerable number

of persons, they finally come to act, against their supposed enemies, as persecutors and as aggressors.

There are in this respect, two great classes of patients. The first, the most numerous class, base their ideas of persecution on various sensory disturbances, and especially on hallucinations of hearing, which become the fundamental element of their existence, and finish in directing and misleading them more and more into their delusions. These are the hallucinated persecutory cases. The others, apparently rational, build up on some more or less salient circumstances of their lives a whole system of perfectly coherent delusive conceptions, based on a semblance of truth, and which, defended with as much skill as conviction, are almost invariably very logically combined. These patients, usually free from hallucinations, and more partially affected in their faculties, are the *reasoning* persecutory cases. They fall into the category of the degenerates.

Whether hallucinated or reasoning, these persecutory cases are, we cannot too often repeat, the most dangerous of the insane, and a large portion of all pathological crimes can certainly be attributed to them. Still more, perhaps, than the hallucinated cases, who kill chiefly from an impulsion, under the influence of an hallucination or under that of a transitory exaltation, the persecuted degenerates are to be feared, and this because they reason out their delusion and carry out in cold blood, so to speak, the crime they have conceived. It is a curious fact,

nevertheless, and one that seriously complicates the *rôle* of the medical expert before the courts, that it is just these patients, the worst of all without any dispute, whom it is most difficult to make accepted as such by the magistrates and by the public.

Persecutory cases, moreover, do not confine themselves to merely attacking their enemies, sometimes their victims are those they have never before seen; they may also, though much more rarely, commit rape or arson.

Hebephrenia.—In hebephrenia, and in a general way, in all the disorders of intelligence that manifest themselves in children, the criminal or unlawful acts assume generally the character of a sudden, instantaneous and unreflecting impulse. There are motiveless murders committed often under circumstances of astonishing cruelty and ferocity, thefts, and incendiarism. It is rare in these cases that the precocity itself of the criminal, added to the impulsive nature of the act, the lack of thought, and the cruelty of which it gives proof, do not put one readily on the track of his real condition.

Puerperal Insanity.—In puerperal insanity the most frequent crimes and misdemeanors are theft and homicide: the theft under the form of an impulsion, a sudden instigation, a desire to satisfy, chiefly in *ante partum* insanity; the homicide, and more especially infanticide, also under the form of an impulsion, chiefly in *post partum* insanity and, more yet, in the insanity of childbed, properly so-called.

In the latter case it is sometimes very difficult to appreciate the pathological nature of the act, the more so from the fact that childbed insanity may be absolutely transitory, not lasting beyond a few hours or a few days.

Toxic Insanities.—In the toxic insanities, and particularly in alcoholic insanity, the form most often in question in a medico-legal way, suicide dominates as a morbid tendency, at least in the subacute form. In the acute form, on the contrary, homicide is not uncommon, and the patients impelled by their terrors and their agitation throw themselves upon their victims whom they butcher with an indescribable fury. They resemble in this point of view maniacs and epileptics, and their state of agitation itself, usually tremulous, is commonly sufficient to reveal the toxic influence. They may also, either simultaneously or each by itself, commit arson, theft, or offenses against decency.

General Paralysis.—The prodromic period of general paralysis, when it assumes the excited form, is very often the theatre of pathological acts, among which misdemeanors, in the place of crimes, hold a large place. In this respect this period has been made the subject of a special study by M. Legrand du Saulle, under the name of the *medico-legal period* of general paralysis. The most frequent misdemeanor is theft, next comes indecent behavior, lastly forgery, breach of trust, and rarely homicide or attempt at homicide.

Whatever the act committed may be it presents special characters which are generally sufficient to enable us to refer them *a priori* to their true origin. The thefts of general paralytics, which have been the subject of special study and analysis, are, indeed, characteristic. The paralytic takes from a store, without precaution and with the candor of innocence some insignificant object, such, for example, as a worthless umbrella, a pair of shoes, or trousers, a bunch of cabbage, an egg, or some delicacy of little value. He has no idea of what to do with the object stolen, and almost immediately gives it away for charity to some beggar. He is so unconscious of the nature of his act that he commits it without concealment, before everybody, and often even calls in the help of a stranger to help him in his larceny, like the paralytic mentioned by M. Magnan who, wishing to carry off a cask of wine called in the aid of a policeman, who, deceived by his candor, aided him to roll his cask. The theft of the paretic, like the other crimes he commits, is an absurd, silly theft, the theft of a demented person, since it is clearly to his demented state that is due his action, as is also the equally absurd and silly character of his delusions. It is more than is required for the diagnosis of even incipient general paralysis, and experts do not usually hesitate when they have to judge upon a theft committed under these conditions by a man of some forty years of age, even when the physical signs of the malady are not yet very pronounced.

EPILEPSY.—With the cases of delusions of persecution, it is epilepsy that furnishes the largest contingent pathological crimes and misdemeanors. The special character that these acts borrow from the great neurosis to which they are due, have been thoroughly studied and shown during late years. These characters, moreover, are so distinct that they make it possible to refer the act committed to epilepsy, even when the outward signs of this disorder and particularly the convulsive attacks, are wanting, as in case of larvated epilepsy, epileptic vertigoes, and *petit mal.* These distinctive peculiarities consist chiefly in the fact that the act of the epileptic, which is generally a crime, especially murder or incendiarism, is committed under the form of a sudden, instantaneous, violent impulsion, frequently reproducing itself at more or less regular intervals, and of which the patient retains no recollection after the attack. This profound amnesia that makes the assassin or the incendiary remember absolutely nothing of what is passed and of what he has done, is peculiar to epilepsy and is met with under the same characters in no other condition. It is often possible for experienced physicians, in the presence of an act of this kind, not only to recognize its pathological nature, but also to make it the starting point of a complete diagnosis, and to suspect a hitherto ignored epilepsy, which in fact reveals itself after a longer or shorter period.

Chapter III.

CRIMINAL CODE (*Continued*).

MEDICO-LEGAL EXAMINATIONS.

We have laid down in the preceding chapter the principle of the irresponsibility of the insane, and shown the nature and character of the more frequent crimes and misdemeanors in mental alienation in general, and in each of its principal types, in particular. It now remains, in concluding the subject of the criminal portion of legal medicine, to state briefly the *rôle* of the physician when he is intrusted with a medico-legal examination relating to insanity.

This *rôle* has been fully described by numerous authors, notably by my eminent and lamented relative, Dr. Linas, in his article in the *Dictionnaire encyclopédique*, from which I borrow the chief paragraphs that follow.

Definition of Expertise* (*l'Expertise*).—When, in a civil or a criminal suit, the question of dementia is raised, men of skill are usually called in, either by

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* The French term *expertise* has no exact English equivalent in the sense in which it is here employed. I have therefore used the word as an English one to avoid an awkward circumlocution that could not moreover well express its meaning, which is literally "a survey by a board of skilled examiners."—Translator.

the judges or by the parties, sometimes to confirm, sometimes to refute, the presumption or allegation of insanity. If the physician acts by virtue of a delegation of judicial authority, he properly takes the title of expert; if his employment, instead of being by the court, is friendly and at the instance of the parties, he is a simple employé, not subject to the rules of the code of procedure. In the first case, the written result of his investigations is called a *report*; in the second case, a *consultation*. Whichever way it is, at base the mission is the same, though different in origin; it tends to the same end, and imposes the same duties. What applies to one, applies also to the other in what we are about to say.

First, what is an expert examination, and what is an expert in the eyes of the law, and in the sense of jurisprudence?

Expertism is a method of instruction; its aim is to enlighten the judges in difficult, dubious, or obscure cases, and to furnish from special knowledge what they need in order to solve the question and make a definite judgment possible.

The expert is a man of skill charged with supplying these elements of the judgment.

In Prussia, as well as in some other countries, the law makes it a duty of the court to call in the assistance of a medical legist to determine the mental condition of an individual. In France it is optional with the magistrates to order an examination by experts, either of his own motion or on the demand

of the parties; they are the sovereign judges as to the expediency of this measure. The obligation to resort to experts is imposed upon the tribunals only in certain special matters designated by the law, amongst which we regret not seeing mental alienation figure, as is the case in Prussia.

The expertise necessarily presumes on the part of the judge, one or several definite questions addressed to the man of skill, and on his part an answer, a personal and reasoned opinion.

The *rôle* of an expert in all its simplicity and clearly defined is this: The expert is less than a judge; he is more than a mere witness; he differs from the first in that his decision has in it nothing imperative, from the second in the extent, the importance, and the scientific character of his testimony. In no case should the medical expert step out of the boundaries of his proper attributes to usurp the *rôle* of an advocate, still less that of a judge. He should not pretend to interpret or apply the law, and should be on his guard against making dangerous encroachments. Fixed animus and vain declamation fit ill in the mouth of a man who should speak exclusively in the name of science and verity. His language should be severe, cold, free from any artifice, disengaged from all interests and prepossessions. He should work for but one end; to instruct the conscience of the judges and to provide impartial decisions for the court.

In a criminal case, the first and generally the only

question for the expert to answer is this: Was the accused in a state of dementia or sound of mind when he committed the act with which he was charged?

Everything is therefore reduced to a question of diagnosis.

Thus fixed on the ground of pathology and of medical observation, the problem simplifies itself, frees itself from metaphysical uncertainties, and reduces itself into two correlated, conjoined and inseparable terms, which should equally share the examination of the physician; the morbid state and the subject, that is the fact and the agent, the act and its author.

The remarks already made relative to the crimes and misdemeanors of the insane make it unnecessary to again recur to the subject. We will confine ourselves to saying that, as regards the fact or the act, save in certain cases where its conception and execution bear the plain imprint of mental alienation, we may accord to this element of the examination *taken singly*, only a secondary and, as it were, an accessory importance; it certainly deserves consideration by the medical legist, but it ought, in order to acquire all its prominence and medico-legal value, be considered only in an abstract way and never be separated from its agent.

As regards the individual, the author of the act, it is evident that he should be the principal object of the physician's investigation. And this investigation to be complete should be carried into not only the psy-

chological phenomena, but also into the external appearance and the whole of the organism; should include not only the actual conditions and existing appearances, but also the past conduct of the subject, his antecedents and his previous acts.

Ways and Means of the Expertise.—The medico-legal expertise to be well conducted should be based on the three following methods of diagnosis: the inquest, the interrogation, the direct and continued observation.

The Inquest.—The inquest consists in collecting all the data that can enlighten the expert in regard to the condition of the insane person, and on the nature of his delusions; in making inquiry as to his hereditary predisposition, and his morbid antecedents, his tastes and inclinations, his habits and mode of life, before and after the outbreak of his insanity; the known or presumed causes of the disorder, the date of its beginning, its manner of invasion and development, its most striking phenomena and most characteristic symptoms, and finally the circumstances and particular details of the act of which he is accused.

These data may be obtained from various sources; from the relatives, friends and neighbors of the individual; by visiting the places where he has lived, and by examining his writings; from the remarks, attestations and certificates of physicians; in the papers of the court,

The legal documents and medical testimonies have a special character of authenticity which gives them in the eyes of an expert an exceptional value. This is not always true on the contrary with the data obtained from kinsmen and friends, and the expert cannot be too much on his guard against the hyperbolic statements and erroneous interpretations of some, and the studied reticence and systematic assertions of others.

We will not dwell here upon the inspection of the dwelling of the subject and the analysis of his writings, in regard to which we have already spoken in the chapter on the practical diagnosis of mental alienation.

Interrogation.—In the same way, as regards the interrogation of the individual, we can refer to the same chapter on practical diagnosis, where this question has heen treated in full detail. We will limit ourselves to mentioning here some particular points relative to medico-legal interrogations.

There is nearly always a real advantage in not having recourse to the personal interrogation until after the inquest, that is, when numerous accurate data have already made known the habitual and dominant ideas of the lunatic, and have made it possible to suspect the form of his disease and shown the best method to be followed in questioning him. We avoid thus having to grope our way and useless loss of time, and are possessed of the necessary facts to

impress a more methodic and efficacious direction upon the interrogation.

It is essential, when in the presence of an insane person, to banish all apparatus, all solemnity and all appearance of harshness. The attitude of the expert should be that of a physician, and not that of an examining magistrate. All his efforts should be to dispel the distrust or fears of the patient, to gain his entire confidence, to quiet his distracted or preoccupied mind. Preciseness and clearness in the questions, simplicity in language, kindness and gentleness in words and manner, plenty of skill, tact, and finesse, firmness when required, in rare and exceptional cases ability to use intimidation and menace; such are the qualities and disposition that it behooves the expert to bring into the medico-legal interrogation of the insane.

In the periodic, intermittent or transitory forms of insanity, the subject may have recovered his reason at the time of the examination. Such a test would then be of no value, and will even entail the risk of drawing false conclusions. The fact must not be lost sight of that in certain cases the delirium decreases rapidly and disappears suddenly when the transports of morbid furor are, so to speak, satiated. In such case, however, it is not uncommon for a new attack to appear during or after the judgment, and thus prove the genuineness of the former one. Hence the rule for the expert to proceed to the interrogation as soon as possible, during

the active period of the insanity; hence also the necessity for him to have frequent recourse to the third method of investigation, direct and continued observation.

Direct and Continued Observation.—Whenever the inquest and personal interrogation have failed to dissipate the doubts of an expert and settle his opinion, he is, after a fashion, compelled to supplement it by personal observation. Many of the insane have sufficient self-control to impose upon the public, and to contain themselves before the magistrates and the physicians. But left to themselves, they throw off the mask and loosen the rein to all their extravagant ideas. By the aid of an assiduous persevering surveillance skilfully managed and practised without their knowledge, one is enabled to ascertain the truth and take them, as it were, in the act of mental derangement.

It is especially, however, in the complicated cases, and those presenting difficulties in their diagnosis, that the direct and continuous observation of the patient becomes most useful in enabling the expert to completely enlighten himself. The chief difficulties met with in this regard are: *dissimulation*, *simulation* and *allegation* of insanity. We will say a word on each of these.

Dissimulated Insanity.—There are certain forms of insanity, the systematized or partial insanities in

particular, in which the patients are naturally induced, by a sort of pathological tendency, to maintain reticence, and to conceal their delusions with sufficient skill, occasionally, to impose upon those not forewarned. The expert must not confine himself to questioning these lunatics. Such a method of investigation could, in these cases, only produce unsatisfactory or misleading results. It is needful to submit them to the test of a personal and protracted observation, to scrutinize their sentiments and instincts, to apply to their actions an attentive control and scrupulous surveillance; to make, if possible, the inventory of their lives; to question the wife, the children, the relatives, that is to say, all the habitual witnesses and neglected victims of their extravagances and madness.

Simulated Insanity.—An accused person, a conscript, or a soldier presents himself with the apparent symptoms of insanity: all three have a like interest in passing themselves off as insane, the one in the hope of gaining freedom form punishment, the others in the hope of escaping military service. Is the insanity feigned or genuine? Such, under these circumstances and others similar to them, is the question to be answered by the medical expert. Following Tardieu, we will examine successively; *a.*—the forms of insanity simulated; *b.*—the methods of simulation; and *c.*—the means of detecting fraud.

a.—Forms of Insanity Simulated.—Not all the

forms of insanity favor simulation equally, and there are some which, on account of the special facility they seem to offer, are most frequently tried by impostors. Of this number are: *acute mania*, of which the state of excitement, the loquacity, and the disordered gesticulation seem, indeed, very easy to counterfeit; *dementia*, of which the essential element, the loss of intelligence and memory, it appears to be merely play to realize; *melancholia*, and especially melancholia with stupor, which apparently only demands of the simulator, a mask of immobility and inertia; *ambitious insanity*, and in general, all the partial insanities, which, for the fact that they turn on a more or less fixed and limited number of ideas, offer a less complex theme and a less difficult *rôle* to sustain. We may mention also the toxic insanities in this connection, and alcoholic insanity in particular, often simulated of late years by certain criminals who hoped thus to escape the rigors of the law by trying to throw the blame on an act committed under the temporary effects of intoxication. Finally should be added epilepsy and epileptic insanity which always hold one of the first places when we are treating of simulation.

b.—The Methods of Simulation.—"I do not believe," says Georget, "that an individual who has not studied the insane could so imitate insanity as to deceive a physician well acquainted with the disease,"

In fact nothing is more difficult to counterfeit than is mental alienation. Imbued with the common notion that all the acts of lunatics are extravagant, that all their discourse is lacking sense, those who borrow the mask of insanity, make excessive gesticulations, perform ridiculous actions and utter incoherent speeches. They invariably give silly and absurd answers to questions addressed to them, without consecutiveness or connection, in which they misconstrue all that is asked of them, so that instead of giving a faithful likeness of insanity, they make an outrageous burlesque and parody of it. In the instance of Derozier, reported by Morel, when asked his age, the impostor, after hesitating, replied 245 francs 35 centimes, or rather 5 metres, 75 centimetres; to a question in regard to his family, his brothers, his children, he answered, "I am well supplied with coupons." In a second questioning, Derozier was asked if it was day, he answered that it was night; his age, he replied that he was king of Beauvais; when asked to give his right hand, he invariably gave his left; the left, and he gave his right hand. There is in all the answers and in all the acts the evident and calculated intention to deceive, and to seek the absurd, which fits poorly with the characters of true insanity, so natural, so logical and so true in all its manifestations, even those that are most extravagant.

Thus, and it is an important fact to keep in mind, the genuine lunatic is a patient in whom all the

various symptoms of insanity reveal themselves without effort and without parade; the simulator is a comedian who plays a part and who can never refrain from exaggerating and grimacing under the mask he has assumed.

Another important peculiarity of simulation is the lack of exactness of the clinical picture presented by the subject, who, if he attempts to offer certain symptoms of the type of insanity adopted, omits certain others just as essential, or replaces them by others not reconcilable with this form. Further, the impostor, incapable of realizing in its successive steps the regular process of the affection he counterfeits, persists indefinitely in the same attitude and the same rôle, or on the other hand he modifies his behavior and speech according as he feels himself watched, or as he believes he can do better by the change. The case reported by Montégya is well known in which the physicians charged with the examination of an individual suspected of simulation, said in his presence, so as to be heard, that they had doubts of the genuineness of the insanity of the accused for several reasons: first, because he scattered the food given him; second, because he did not sigh; and third, because he did not look fixedly on any object. The ruse succeeded, the simulator modified his comedy in such a manner as to instantly relieve the doubts of the physicians.

c.—Methods of Discovering Simulation.—Although, properly speaking, there is no particular

method of discovering simulation, there are, nevertheless, certain rules, the knowledge of which may be under such circumstances, very useful to the physician.

"A first principle," says Tardieu, "that should never be ignored in these cases, is, to give no opinion until after prolonged, repeated, persevering, and, so to speak, incessant observation, carried on, if not directly, at least indirectly, by persons sufficiently experienced and familiar with the insane." It is for this reason, that it is always preferable to transport the subject, as is usually done, to an insane asylum where he can be more efficiently observed, or where he may in contact with genuine lunatics, change his behavior in a way to betray himself, or where he sometimes, tiring of his sojourn in such surroundings, at last gives up his simulation.

It has, from all time, been recommended, as a proper procedure to unmask simulation, to use methods of harshness and repression toward the suspected individual, such as the employment of chloroform or ether, blisters, moxas, scarifications, the actual cautery, energetic douches, etc., etc. With Tardieu, who raised his voice against these painful and sometimes even dangerous tests, we proscribe all these truly inhuman methods, and only accept, in this line, such really inoffensive procedures, like the sojourn of the accused in a ward of disturbed or untidy patients, to weary his patience, and like a sham medication composed of water with some dis-

agreeable or nauseous substance added, to disgust him.

In reality, it is chiefly on his own experience and sagacity that the physician must rely in discovering simulation. By multiplied and well conducted interrogations, strict observation, a surveillance without relaxation, carried on night and day without the knowledge of the party observed, by methods skilfully adopted to put his distrust to sleep, nets carefully spread to provoke inconsiderate words, imprudent writings, or compromising actions: such are the more correct methods for reaching this result.

One of the principal rules in an expertise of this nature consists in submitting to a careful examination the different bodily functions of the individual. In fact it is especially in this regard that simulation is difficult, and of certain symptoms impossible. There is insomnia which pseudo-lunatics hardly attempt; analgesia so frequent in genuine lunatics; irregularity of the appetite, constipation, and above all the disorders of the circulation and respiration, so characteristic in the generalized insanities, and which it is clearly impossible to counterfeit. Thus the sham melancholiac, however easily he assumes the mask of torpor, never succeeds in presenting the lowering of the bodily temperature, the slowness of pulse and respiration, and especially the violaceous chilling of the extremities, that are so manifest in true melancholia. If necessary the thermometer and sphygmo-

graph can be employed, as has been done by M. Voisin in simulated epilepsy.

Another sign is the facial expression, on which M. A. Laurent has judiciously laid stress in his excellent monograph on simulation of insanity. "The aspect of the simulator," says that author, "is furtive, changeable, and sly. The countenance indicates forced expression, an unpleasant and significant lack of harmony. The criminal simulator cannot give to his face the wild and excited appearance that belongs to the maniac. We recognize there only effrontery, and not mental aberration. Neither can he assume the genuine, indifferent and enfeebled expression of the dement and paretic, fixed gaze of the stuporous patient, the proud and haughty look of the monomaniac, etc. He cannot conceal the attention he gives to every word and motion of him who is charged with studying his words and gestures; and very often he casts down his eyes, distrusting the expression his looks might betray."

A difference still to be noted between the genuine and the false lunatic is that the former is generally rather inclined to conceal his insanity and in any case to deny it and defend himself from the imputation, while the simulator, on the contrary, seeks constantly to give evidence of his insanity, he plumes himself on it, so to speak, and is never so extravagant as when he finds himself in the presence of those called to examine and judge him.

Finally, it must not be forgotten, in expertises of

this kind, that the insanity may have broken out after the commission of the act of which the person is accused; that the subject, already more or less truly insane, may simulate or rather exaggerate his delirium, a phenomenon noticed many times by numerous observers, and it has even been said by some that it is necessary to be more or less insane to simulate insanity; finally, that the prolonged simulation of insanity may, in the long run, have an injurious effect on the faculties of the subject, and even disorder more or less profoundly the intellect. Many exposed simulators have admitted that they felt they were becoming insane, and that they would not again begin to play such a part, even to save their lives. "You cannot believe what I have suffered," said the unmasked Derozier to Morel, "I believed I was really becoming insane, and I have more fear of becoming a lunatic than of going to prison."

Alleged Insanity.—A misdemeanor or crime has been committed; the accused person is in the grasp of the law; he does not pretend to be now insane, but he protests, either personally or through his counsel, that his mind was astray at the time of the act, that he was under the influence of this transient delirium, dream or hallucination, when he committed the act. Undoubtedly, in cases of this kind, a minute analysis of the circumstances that preceded, accompanied or followed the act, may furnish useful indications; nevertheless, the expert should remember

expressly that cases of sudden and transitory insanity are rarely observed, not to say never, in persons absolutely sound in mind and body, but that such conditions are generally the sign or the result of an ignored hereditary predisposition, unrecognized vertigo, a threatening meningo-encephalitis, or of a larvated mental derangement, or one in the period of incubation. It is, therefore, indispensable that all the investigations should be guided by these considerations.

MEDICO-LEGAL REPORTS.—His examination finished, it remains for the physician to formulate the result and to make known his conclusions under the form of a written document, which bears, as we have stated, the name of a medico-legal report. It seems unnecessary to reproduce here models of these reports, as I did in the previous edition of this work. I refer those who wish it to the remarkable report of my friend, Dr. Parant, on the murderer of Dr. Marchant, to the reports of Blanche, Lasègue, and Legrand du Saulle, and particularly to the acute and excellent reports of my master and friend, M. Motet, some of which are veritable clinical and literary masterpieces, and which unhappily remain always unpublished or scattered in the pages of special reviews.

ASYLUMS FOR INSANE CRIMINALS.—When, after a medico-legal expertise, the accused, declared irre-

sponsible, has been the object of an ordinance of non-suit, it yet remains to be asked, what shall be done in regard to this unfortunate.

Is it necessary, assimilating him with the ordinary insane, to simply confine him in an insane asylum, without having his retention there and his release conditioned by some special regulations? Or, on the contrary, is it necessary to separate him from the other insane, and to confine him in a special asylum, like that of Broadmoor in England (criminal lunatic asylum), or in an annex to a prison like that existing in the *Maison centrale* of Gaillon, France, and to subject his detention and his restoration to liberty to specially devised rules?

Such is the important question at present* under discussion in France, in a scientific point of view by the *savants*, and in a legislative point of view by the commission charged with the elaboration of the new law.

Without taking sides in this important question we will confine ourselves to saying that the majority incline to the creation of special State asylums for the insane, not criminals, since the two terms are incompatible, but for lunatics whose tendencies are especially vicious and dangerous. Among the numerous reasons of divers orders which have provoked this solution, there should be specially mentioned the need felt, on account of the present tendency to increase more and more the liberty of the patients in the asy-

* 1891.

lums, of separating inoffensive insane from those really dangerous, whose presence with the former would suit poorly with the increase of freedom that is proposed. I may add that in the ordinary asylums the criminal insane mingled with the others recover their liberty with a deplorable facility, and that it is not uncommon to meet before the courts irresponsible, incorrigible *recidivistes*, who, leaving an asylum for the fifth, sixth, or the tenth time, are arrested at once for a new misdeed, often the same as before, and it is only too fortunate if their morbid tendencies are not found aggravated at each arrest.

THE END

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