Obscure diseases of the brain and mind / by Forbes Winslow.

Contributors

Winslow, Forbes, 1810-1874.

Publication/Creation

London : John Churchill, 1868.

Persistent URL

https://wellcomecollection.org/works/ket2aqb9

License and attribution

This work has been identified as being free of known restrictions under copyright law, including all related and neighbouring rights and is being made available under the Creative Commons, Public Domain Mark.

You can copy, modify, distribute and perform the work, even for commercial purposes, without asking permission.

wellcome collection

Wellcome Collection
183 Euston Road
London NW1 2BE UK
T +44 (0)20 7611 8722
E library@wellcomecollection.org
https://wellcomecollection.org


22101616177


Digitized by the Internet Archive
in 2015

https://archive.org/details/b21496675

ON THE OBSCURE

DISEASES OF THE BRAIN,

AND

DISORDERS OF THE MIND.

"O! THAT WAY MADNESS LIES; LET ME SHUN THAT."

King Lear.

"IF OUR LEG OR ARM OFFEND US, WE COVET BY ALL MEANS POSSIBLE TO REDRESS IT; AND IF WE LABOUR OF A BODILY DISEASE, WE SEND FOR A PHYSICIAN; BUT FOR THE DISEASES OF THE MIND WE TAKE NO NOTICE OF THEM."

Burton's "Anatomy of Melancholy."

"PRINCIPIIS OBSTA; SERO MEDICINA PARATUR,
CUM MALA PER LONGAS CONVALÛERE MORAS."

Ovid.

87437.

ON

THE OBSCURE

DISEASES OF THE BRAIN,

AND

DISORDERS OF THE MIND.

BY

FORBES WINSLOW, M.D.
D.C.L. OXON. (Hon.) &c. &c.

FOURTH EDITION, REVISED.

LONDON:
JOHN CHURCHILL & SONS, NEW BURLINGTON STREET.
MDCCCLXVIII.

/8095618

WELLCOME LIBRARY INSTITUTE

WELLCOME INSTITUTE LIBRARY
Coll. welMOmec
Call No. WL300
1868
W77o

TO MY SON,

LYTTLETON S. WINSLOW,

LL.B. CANTAB., & B.C.L. OXON.

My dear Lyttleton,

As you are about entering the medical profession, I dedicate with great pleasure the fourth edition of this work to you, with an earnest desire that you may diligently uphold the honour and dignity of the learned body to which you are on the eve of allying yourself, endeavouring on all occasions to advance the science of medicine, and by assiduous application to the study of the pathology and treatment of disease, be instrumental in prolonging human life, and diminishing bodily and mental suffering.

I remain,

Your affectionate Father,

THE AUTHOR.

June 1868.

PREFACE TO FOURTH EDITION.

THIS, the Fourth Edition of my work, has been carefully revised. Many of the cases related in the former issues have been removed, thus making room for important additional matter of greater practical value.

The new views of the pathology and treatment of Epilepsy, Progressive Locomotor Ataxy, Aphasia, and Glosso-Laryngeal Paralysis, will be found in this volume.

F. W.

23 CAVENDISH SQUARE, *June* 1868.

PREFACE TO THIRD EDITION.

THE object of this work is to briefly, clearly, and free from all unnecessary technicalities of language, point out the more important salient and characteristic symptoms that usually precede and accompany serious and often fatal attacks of disease of the brain and disorder of the mind.

This work is to be considered merely as an outline or sketch of a vast and hitherto much-neglected branch of practical medicine.

All diseases of the brain, independently of or complicated with disorders of the mental operations, are, as a general rule, very obscure in their origin, insidious in their progress, and most difficult to treat successfully, particularly when, in consequence of their being unobserved in their incipient stage, they are permitted to pass unarrested from an acute into a chronic condition.

Hence the grave significance attached to the advice so properly given to the practitioner of medicine, that he is not only to watch with the greatest vigilance for the approach of all head affections, but, if possible, to anticipate their

stealthy advance, and prevent, by the early use of remedial measures, those organic and incurable alterations in the delicate structure of the brain, which so often follow neglected cerebral and unnoticed mental diseases.

A careful study of the premonitory signs of these affections should not, if philosophically considered, excite on the part of the patient morbid apprehension or nervous alarm.

In all the great transactions of life, the wisdom of the maxim, that prevention is better than cure, is universally admitted. Its application is general.

Admiral Fitzroy sits quietly, like a magician of old, in his London studio, and, as the result of much philosophical study and many complex calculations, based upon a large accumulation of data illustrating meteorological science, is able, with extraordinary and almost unerring precision, to detect sudden alterations of temperature and changes of weather. With wonderful sagacity he has frequently been known to predict the approach of fearful hurricanes.

Having satisfied himself as to the accuracy of his conclusions, the Admiral touches the electric wire, and instantaneously communicates with the officials on the coast, bidding them to hoist the storm signals. By the wise and timely warning thus given, much valuable property about proceeding to sea in vessels is preserved, and many valuable lives are saved.

The skilled mariner, by his knowledge of the laws governing storms, and a careful observation of the character of the clouds and elevation or fall of the barometer, is able

to anticipate the approach of foul weather, and thus, by the adoption of precautionary means, to avoid placing his vessel within the reach of danger.

The general in command of an army marching in time of war through an enemy's country sends out in advance his trustworthy scouts, and is thus protected from all sudden surprise. So the philosophical physician, recognising the fatally destructive character of certain diseases, considers that he is but ill discharging the duty he owes to the public if he does not point out to the uninitiated, as well as those who are medically educated, the symptoms that, in the great majority of cases, are premonitory of serious morbid organic conditions.

It may be urged that it is mischievous to excite anxiety where no danger is close at hand; but surely it is wise to be on our guard against the approach of disease, to observe its first warnings, and thus, by the use of appropriate remedies, prevent the enemy from obtaining a permanent lodgment in one of the vital tissues.

The daily records of passing events are full of sad data painfully illustrating the folly of neglecting disease of the brain and mind in its incipient stage.

Fatal attacks of apoplexy, serious cases of alarming paralysis, incurable conditions of softening of the brain, lamentable instances of insanity, suicide, homicide, and murder, are matters of daily occurrence, springing out of unobserved and neglected affections of the brain and mind.

It is with the view of exciting a deeper interest in and

of awakening a profounder and more philosophical attention to this important subject that these pages have been penned.

That this work (of which two large editions have been sold within three years) has been productive of much practical good, admits of easy and satisfactory demonstration. Cerebral symptoms that were too commonly overlooked, or, if noticed, viewed as insignificant, are now properly considered as symptomatic of threatening brain and mental disease. Thus mischievous maladies have been detected in the incipient stage and placed under arrest, whilst appropriate medical measures have been adopted for their mitigation and cure. For these known results I have every reason to be grateful.

F. W.

October 1863.

TABLE OF CONTENTS.

CHAPTER I.

INTRODUCTION.

Important aphorism of Hippocrates in reference to the early treatment of disease—Marshall Hall on the neglect of premonitory symptoms of disease of the brain—General neglect of incipient cerebral symptoms—Attention paid to the early symptoms of disease in other organs—Cases illustrating the neglect of incipient symptoms—Insidious character of disease of the brain—Obscure cerebral symptoms—All affections of the brain have an incipient stage—Latent disease of the brain—Diseases of the brain subject to general pathological laws—Neglected affections of the brain—Cases of alterations of structure of the brain—Physiology of the brain—Necessity of watching for incipient cerebral disease—Early treatment of insanity—Unwillingness to recognise the existence of insanity—Importance of early treatment, pp. 1—21

CHAPTER II.

MORBID PHENOMENA OF INTELLIGENCE.

All physical alterations of the brain modify its psychical functions—Effect of cerebral disease on the mind—Emotional exaltation and excitement—Irresistible impulse to suicide—Ennui not always a condition of mental inactivity—Early symptoms of mental disorder—Disorders of the mind shown by alterations of thought and conduct, ... 22—27

CHAPTER III.

PREMONITORY SYMPTOMS OF INSANITY.

Ignorance of the nature of insanity—What is insanity?—Ignorance of the mental and nerve force—The extent of our knowledge of the nature of mind and matter—Impossibility of defining insanity—Study of metaphysics and logic—Suggestions for an improved analysis of morbid mind—Laws governing the operation of thought—State of the mind between sleeping and waking—Insanity and dreaming—Are intellectual problems solved during dreams?—Insanity a waking dream—Pascal on dreams—Poetry, &c., composed during sleep—Rapidity of mental action in dreams—Curious case—Resemblance of the phenomena of dreams to insanity—In dreams the mind is often conscious of its creations—Lucid intermissions during attacks of insanity—Singular temporary restoration to reason, ... 28—60

CHAPTER IV.

CONFESSIONS OF PATIENTS AFTER RECOVERING FROM INSANITY; OR THE CONDITION OF THE MIND WHEN IN A STATE OF ABERRATION.

The autobiography of the insane interesting and instructive—Indivisibility of mind—Can the insane accurately describe, after recovery, their previous condition of disordered mind?—Shakspeare the only correct delineator of insanity—Former barbarous treatment of the insane—Pinel's efforts to ameliorate the condition of the insane—Progress in the pathology and therapeutics of insanity, ... 61—65

CHAPTER V.

STATE OF THE MIND WHEN RECOVERING FROM AN ATTACK OF INSANITY.

State of the mind when passing out of an insane into a sane condition—Doubts as to the reality of delusions among the insane—The Rev. Mr Walford's account of his recovery from an attack of mental derangement, . 66 –71

CHAPTER VI.

ANOMALOUS AND MASKED AFFECTIONS OF THE MIND.

Impossibility of defining insanity—Singular case of insanity—Insanity among children—Symptoms of insanity—Undetected mental disease—Remarks by Dr Brierre de Boismont and others on the insanity of early life—Insanity in the United States of America—Statistics of insanity among children—Hereditary predisposition to insanity—Incipient symptoms of insanity—Transformations of character in the early stage of insanity—Exaggerations of natural states of mind often indicative of insanity—Delusions—Diagnosis of insanity—Obscure disease of the brain—Latent and unrecognised insanity—Serious results following a non-recognition of insanity—Pseudo forms of mental disorder—Insidious approach of insanity—Symptoms of latent insanity—Alterations of character and disposition preceding attacks of insanity—Cases of morbid paroxysms of passion—Temper disease—Curious case of disordered mind—Insanity shown in acts of brutality—Concealed monomania—Moral character changed by physical injury—Paralysis of the moral sense—Illustrations of moral idiocy—Shakspeare's description of this affection—Latent case of monomania—Transformation of character caused by physical disease—Effects of diseased brain on the character—Historical illustrations of diseased brain on the character—Caligula, Tiberius, Catherine de Medici, Frederick William of Prussia, Robespierre, Judge Jeffreys—Meteorological influence on the mind—Effect of chloroform on the mind—Resemblance of mental phenomena caused by the use of chloroform to insanity—Curious mental phenomena caused by the absorption of poison in the blood—Singular case of hydrophobia affecting the mind—Influence

physical irritation on the mind—Morbid views of religion—Extraordinary organic change discovered after death in the membranes of the brain—Brutality and immorality—Cases of erotic monomania—Speedy cure of a case of insanity—Singular case of concealed insanity—Recklessness in monetary transactions exhibited in the incipient phase of mental disorder—Case of undetected insanity—Motiveless acts of brutality connected with latent insanity—Homicidal insanity—The medico-legal witness—Duties of the psychological expert—Importance of the testimony of experts in subtle cases of insanity—Popular ignorance of insanity—Evidence in cases of alleged lunacy—Case of Atkinson, the homicidal idiot—Danger of lunatics being at large—Decision of juries in cases of insanity—Serious consequences of a wrong verdict in commissions *de lunatico*—Anomalous defective state of the law of lunacy—Justice to be tempered with mercy, . . . 72—140

CHAPTER VII.

THE STAGE OF CONSCIOUSNESS.

Neglect of habits of self-inspection—Innate wickedness of the human heart—Mysteries of the inner mental life—Consciousness of the approach of insanity—Foreshadowings of insanity—Struggle between reason and insanity—Morbid apprehensions of insanity—Confessions of patients—Insidious advances of morbid thought—Obscene and immoral ideas—Illusions premonitory of insanity—Phantasms and spectral illusions—Illusions of hearing (voices)—Incubation of insanity—Efforts made to conceal insanity—Insane impurity of thought—The insanity of Ophelia—Explanation of the causes of perverted thought—Sources of early moral deterioration—Purity of thought sometimes exhibited by the insane—Power of controlling insane ideas—Symptoms of incipient insanity—Morbid presentiment of insanity—Prediction of attacks of apoplexy—Sir W. Scott's anticipation of brain disease—Dean Swift's presentiment of his approaching imbecility—Morbid anticipation of insanity, ... 141—163

CHAPTER VIII.

STAGE OF EXALTATION.

Psychical exaltation—State of mind premonitory of insanity—Morbid exaggeration of ideas—Emotional exaltation—Suicidal delirium connected with great exaltation of spirits—Wit, ingenuity, and cunning of the insane—Mental acuteness of the insane—Poetical enthusiasm in mania—Mental abilities of the insane—Symptoms of insanity in young women—Peculiar type of mental disease—Self-control and shrewdness of the insane—Art of analysing subtle cases of insanity—Feigned insanity unmasked by chloroform—Concealment of delusions by the insane—Cunning, cleverness, and subtlety of the insane—Acute instinctive manifestations of the insane—Subtlety of the insane metaphysically explained—Symptoms of insanity—The physical agitation of incipient insanity—Tortures of a wicked conscience—Happy type of insanity—Horace's description of the happy madman—Premonitory signs of apoplexy—Insidious symptoms of general paralysis, . . . 164—189

CHAPTER IX.

STAGE OF MENTAL DEPRESSION.

Acute morbid melancholy—Symptoms of brain disease—Concealed delusions—Subtle types of suicidal insanity—Melancholia a symptom of organic disease of the brain, ... 190—192

CHAPTER X.

STAGE OF ABERRATION.

Obscure progress of aberration of mind—Exaggeration and perversion of ideas—Disorder of the perceptive faculties—Delusions, how they originate—Morbid conditions of sight—Illusions of hearing—Illusions premonitory of disease of the brain—Singular case of spectral illusions—Perversions of the moral sense—Insane pilfering and concealing—Insanity manifested by avarice and licentiousness—Softening of the brain, ... 193—208

CHAPTER XI.

IMPAIRMENT OF MIND.

Insidious advances of mental imbecility—Symptoms of softening of the brain and apoplexy—Lesions of intelligence preceding disease of the brain—Impaired nutrition of the brain, ... 209—212

CHAPTER XII.

MORBID PHENOMENA OF ATTENTION.

Importance of the faculty of attention—Genius a continued attention—Impairment of attention—Morbid distraction and reverie—Injurious effects of protracted reverie—Resemblance of reverie to dreaming—Morbid imaginative contemplation—Hypochondriasis—Morbid concentration of attention—On the importance of controlling the imagination—Weakness of attention a symptom of cerebral disorder—Morbid effect of concentrated attention—Defect of Speech—Impairment of attention—Morbid distraction a symptom of brain disease—The cerebral disease of Oscar, King of Sweden, exhibiting itself in the early stage by distraction of mind, ... 213—232

CHAPTER XIII.

MORBID PHENOMENA OF MEMORY.

What is memory?—The natural classification of ideas—Cause of decay of memory in old age—Mode of acquiring knowledge—Theory of memory—Loss of memory in apoplexy—Laws regulating the admission of ideas into the mind, ... 233—241

CHAPTER XIV.

ACUTE DISORDERS OF THE MEMORY.

Decay of memory in old age—Retention of early impressions in old age—Premature impairment of memory—Loss of memory in advanced life—The poet Roger's loss of memory—Importance of preserving the memory—Impairment of memory a symptom of brain disease—Loss of memory a symptom of paralysis and softening of the brain—Sudden and transient loss of memory—Symptoms of mental disorder—Causes of impaired and paralysed memory—Sir H. Holland's case of temporary loss of memory—Effect of stimulants in restoring the memory—Confused state of the memory a symptom of ramollissement of the brain—Effect of mental emotion on the ideas, ... 242—252

CHAPTER XV.

CHRONIC AFFECTIONS OF THE MEMORY.

Forgetfulness of names previous to an attack of brain disease—Loss of language caused by a blow on the head—Singular case of revival of a language long forgotten—Loss of language after attacks of apoplexy, &c.—Effect of injury to the head on the memory—Singular case of defect of memory—Loss of memory after acute bodily disease—Effects of Paralysis on the memory—Loss of certain words, &c.—Remarkable case of disordered memory—Effect of a bullet-wound on the memory—Impairment of memory after epidemics—Paralysis of the memory caused by intense cold—Effect of the Russian campaign on Bonaparte's memory—Loss of memory caused by fever—Loss of language—Singular manifestations of memory prior to death—Effect of apoplexy on the memory—Effect of a mental shock on the memory—Remarkable case of disordered memory—Proximate cause of morbid memory—Singular case of defect of memory—Cases of impairment of memory, 253—276

CHAPTER XVI.

PERVERSION AND EXALTATION OF MEMORY—MEMORY OF THE INSANE.

Curious cases of perversion of memory—Remarkable case of double personality—Case of double or divided consciousness—Exaltation of memory a fatal diagnostic sign—Exaltation of memory in the brain diseases of early life—Improvement of memory in advanced life often precursory of apoplexy—Case of exaltation of memory—Memory of the insane—Shakspeare on the memory of the insane, ... 277—285

CHAPTER XVII.

PSYCHOLOGY AND PATHOLOGY OF MEMORY.

Destruction, a physical and moral impossibility—Indestructibility of mental impressions—Effects of organic physical changes on the mind—Inexplicable

psychical and physical phenomena—Assimilative power of the blood—Nutrition of the brain—Is the mind situated in the brain?—The subject of chemico-cerebral pathology ought to be more investigated—Phenomena of latent mental impressions—Curious facts relative to latent light—Indestructible character of ideas—Mental phenomena caused by drowning—Curious phenomena manifested at death—Morbid phenomena of language—Knowledge of languages revived by fever—Curious phenomena observed in somnambulism and catalepsy—Laws governing the association of ideas—Morbid and sensitive state of activity of the memory—Physical theory of latent mental impressions—Physical impediments interfering with thought—The brain compared to a galvanic battery—Sudden resuscitation of latent ideas—Rapidity of mental action—Cases of loss of memory, and its sudden restoration—Idiocy cured by blows upon the head—Connexion between wit and madness—Dormant nature of mental impressions—Latent ideas suddenly recalled to consciousness—Loss of speech and consciousness—Sudden arrest of intelligence—Garrick's accurate knowledge of insanity, how acquired—Morbid fixedness of idea, ... 286—329

CHAPTER XVIII.

MORBID PHENOMENA OF MOTION.

Diagnosis between cerebral and spinal paralysis—General muscular debility—Early signs of softening of the brain—Partial loss of motor power Incipient symptoms of apoplexy and paralysis—Insidious progress of brain disease—Case of brain disease without impairment of intellect—Muscular tremors symptomatic of brain disease—Irregular muscular action—Morbid want of muscular co-ordination—Difficulty of explaining these phenomena—Convulsive action—Obscure types of nocturnal epilepsy—Loss of memory in epilepsy—Diagnosis of epilepsy—Premonitory symptoms of epilepsy—Affections of the tongue and muscles of the mouth—Insidious symptoms of paralysis—Effects of softening of the brain on the motility—Morbid handwriting—Paralysis agitans—Premonitory symptoms of paralysis agitans—Loss of sleep—Morbid affections of the spinal cord—Acute ramollissement of the spinal cord—Alterations in motion in cerebral softening—Peripheral paralysis—Symptoms of progressive locomotor ataxy, ... 330—354

CHAPTER XIX.

MORBID PHENOMENA OF SPEECH.

Various forms of aphasia—Cerebral localisation of speech—Is loss of speech the result of affections of the anterior lobes of the brain?—Loss of speech caused by cerebral paralysis—Disease of the corpora olivaria a cause of loss of speech—Morbid impairment of speech——Irregular impairment of the articulation—Paralysis of ideas in incipient cerebral disease—Pathology of aphasia—Case of aphasia—Symptoms of glosso-laryngeal paralysis—Morbid irregularity of speech—Forgetfulness of certain words a symptom of apoplexy—Singular misplacement of words—Cases of curious defect of articulation—Morbid articulation—Loss of speech a symptom of apoplexy, congestion, and softening—Morbid misuse of words—Singular alterations of speech—Irre-

gularity and impairment of speech—Diagnostic value of affections of speech —Symptoms of acute softening—Loss of speech caused by mental distress— Loss of speech a symptom of epilepsy and apoplexy—Premonitory signs of paralysis—Sudden loss of speech—Successful treatment of a case of loss of speech—Morbid speech following apoplexy—Singular case of mutism caused by a bullet wound—Perversion of speech the result of a wound on the head —Case of extraordinary perversion of speech—Morbid imitative movements of articulation—The "echo" symptom of softening of the brain—Involuntary articulation a symptom of brain disease—Effect of insanity upon the voice— Alterations of voice symptomatic of insanity, ... 355—393

CHAPTER XX.

MORBID PHENOMENA OF SENSATION.

Exaltation of sensation—Softening of the spinal cord—Vertigo a symptom of cerebral disease—Cause of vertigo—Symptoms of epileptic vertigo—Obscure cases of epilepsy—Diagnosis of epilepsy—Hyperæsthesia of the brain— Cephalalgia generally accompanying cerebral affections—Cerebral headache— Anæsthesia a symptom of brain disease—Incipient symptoms of apoplexy— Insensibility of the mucous membrane of the conjunctivæ in incipient disease of the brain—Sensation of cold a symptom of apoplexy—Impairment of the sense of taste a symptom of softening—Sensation of weight and heaviness in the side a symptom of cerebral softening—Deficient sensibility of the insane— Explanation of the causes of anæsthesia—Impairment of sensibility in incipient general paralysis—Remarks by Pinel on the insensibility of the insane—Cases of insensibility to pain among the insane—Insensibility from pre-occupation of mind—Vitiated sensation symptomatic of cerebral disease, . 394—414

CHAPTER XXI.

MORBID PHENOMENA OF THE SPECIAL SENSES.

Normal acuteness of the senses—Mental distress caused by certain odours— —Mozart's acuteness of hearing—Acuteness of the sense of touch among the blind—Singular defects of vision—Inability to distinguish colours symptomatic of brain disease—Curious cases of error of colour, 415—418

CHAPTER XXII.

MORBID PHENOMENA OF VISION, HEARING, TASTE, TOUCH, AND SMELL.

Impaired and paralysed sight—Defect of vision symptomatic of disease of the brain—Early signs of cerebral amaurosis—Cephalalgia a symptom of centric cerebral amaurosis—Value of the ophthalmoscope in detecting obscure diseases of the eye—Double vision a symptom of disease of the brain—Case of sudden restoration of sight—Loss of sight caused by tumours in the brain—Causes of amaurosis—Loss of sight premonitory of apoplexy—Singular case of

sudden recovery of the sense of vision—Importance of the early detection of cerebral disease—Symptoms of amaurosis dependent upon vascular congestion—Singular case of morbid derangement of sight—Exaltation of vision premonitory of brain disease—Cases of morbid exaltation of vision—Spectral illusions—Göethe's power of producing phantasms—Cases of hyperæsthesia of vision connected with disease of the optic thalamus—Perversion and aberration of sight—Peculiar expression of the eyes in some forms of brain disease—Incipient symptoms of apoplexy—Derangement of sight premonitory of meningitis, congestion, and hyperæmia—Vitiated perception a symptom of apoplexy—Symptoms of cerebral hemorrhage—Morbid luminous phenomena—Photopsia a symptom of disease of the brain—Singular phantasmal phenomena—Illusions of sight—Morbid phenomena of sight—Strabismus symptomatic of disease of the brain—Double vision an important symptom of cerebral disease—Double vision symptomatic of apoplexy, paralysis, cerebritis, and meningitis—Morbid phenomena of hearing—Acuteness of hearing in incipient cerebral affections—Hyperæsthesia of hearing a symptom of insanity—Illusions of the sense of hearing—Murder and suicide caused by illusions of hearing—Morbid phenomena of taste, touch, and smell—Disordered state of the taste and smell in incipient insanity—Disordered condition of the tactile sensibility in incipient paralysis—Exalted tactile sensibility, ... 419—450

CHAPTER XXIII.

MORBID PHENOMENA OF SLEEP AND DREAMING.

Sleeplessness of incipient insanity—Heavy and drowsy sensation a symptom of cerebral disorder—Insomnia caused by a severe mental shock—Death from want of sleep—Pathology of sleeplessness—Case of long-continued sleeplessness—Sleeplessness in insanity often caused by spectral illusions—Singular illusions causing sleeplessness—The poet Southey's insanity caused by loss of sleep—Morbid disposition to excess of sleep—Drowsiness a symptom of apoplexy—Lethargy a symptom of cerebral disorder induced by renal disorder causing a retention of urea in the blood—Morbid drowsiness and excess of sleep—Morbid phenomena of dreaming—Dreams often symptomatic of disease of the brain—Hallucinations between sleeping and waking—Morbid dreaming preceding insanity—Insanity commencing in a dream—Murder committed during sleep, ... 451—465

CHAPTER XXIV.

MORBID PHENOMENA OF ORGANIC AND NUTRITIVE LIFE.

Sympathy between the brain and digestive organs—Case of delirium caused by indigestion—Derangement of the stomach in incipient insanity—Nausea resembling sea-sickness symptomatic of cerebral tumours and softening of the brain—Influence of chronic disorders of the digestive organs on the mental impressions during insanity—Refusal of food by the insane, causes of—Vitiated and depraved appetite of the insane—Embonpoint in chronic insanity—Influence of disorders of the nervous system upon the functions of

nutrition—Morbid phenomena of circulation, respiration, and generation—Connexion between apoplexy and cardiac disease—Influence of cardiac disease on the psychical functions of the cerebrum—Hallucinations caused by disease of the heart—State of the pulse in incipient insanity—Sympathy between the lungs and brain—Post-mortem examination of the lungs of the insane—Exaltation and impairment of the reproductive organs, 466—474

CHÀPTER XXV.

GENERAL PRINCIPLES OF PATHOLOGY, DIAGNOSIS, TREATMENT, AND PROPHYLAXIS.

Obscurity of the pathology of the brain—Opinions of celebrated authorities as to the proximate cause of insanity—Capillary congestion a cause of insanity—Apparently normal condition of the brain often observed after death from acute insanity—Disordered condition of the psychical co-ordinating principle a cause of insanity—Pathological phenomena of general paralysis—Softening of the brain and hemiplegia—Idiopathic ramollissement of the brain—Influence of deposits in the arteries upon the circulation—Diseased arteries a cause of apoplexy—Pathology of epilepsy—Pathology of progressive locomotor ataxy—Pathology of glosso-laryngeal paralysis, . . 475—487

CHAPTER XXVI.

GENERAL PRINCIPLE OF DIAGNOSIS.

Diagnosis of insanity—Affections with which insanity is liable to be confounded—Distinction between insanity and delirium—Differential diagnosis between eclampsia, hysteria, and epilepsy—Diagnosis of cerebral congestion—Distinction between insanity and cerebritis—Diagnosis between meningitis and inflammation of the substance of the brain—Anæsthesia preceding cerebro-spinal disease—Incipient symptoms of general paralysis—Diagnosis between general paralysis and wasting palsy—Diagnosis of softening of the brain—Premonitory symptoms of acute and chronic softening—Cerebral abscesses and tumours—Importance of knowing the antecedents of patients—Diagnosis of cerebral cephalalgia—Importance of cephalalgia in a diagnostic point of view—Neuralgic and rheumatic cephalalgia—Nervous headache and cephalalgia symptomatic of tumours of the brain—Diagnosis between cerebral and idiopathic sickness of the stomach—Use of ophthalmoscope in diagnosis of cerebral disease, ... 488—504

CHAPTER XXVII.

GENERAL TREATMENT OF PRINCIPLES AND PREVENTION.

Treatment of incipient insanity—Duties of the physician—Depletion in insanity, its use and abuse—Caution to be exercised in the exhibition of purgatives—Use of hellebore by the ancients for the cure of insanity—The use of prolonged hot baths in the treatment of acute mania—Value of opium in the treatment of incipient insanity—The beneficial result of sedatives in cases

of melancholia—Use of chloroform in cases of insanity—Value of hypodermic injections of morphia—Isolation of the patient from his friends—Mr Spurgeon's method of subduing evil thoughts—Necessity of self-control—Baxter on the sinless character of involuntary evil thoughts—Archbishop Secker on "Sin against the Holy Ghost"—Emerson on religious sentiment induced by bodily disease—Importance of early treatment of organic disease of the brain—Value of tonic treatment in incipient apoplexy and paralysis—Treatment of softening of the brain—Disease of the brain caused by mechanical injuries to the head—Injurious effects of blows upon the head—Importance of watching the state of the brain after injuries to the head—Various diseases of the brain preventible if treated in the early stage—Abscesses from blows upon the head—Course of treatment to be adopted after severe blows upon the head—Importance of the early detection of head symptoms—Value of bromide of potassium in epilepsy—Treatment of cases of impaired intelligence—Importance of the cultivation of the faculty of attention—Treatment of impairment and loss of memory—The decay of memory illustrated in the case of Themistocles—Sophocles' refutation of imbecility in his old age—Treatment of the mind after an attack of insanity—Susceptibility of the memory to improvement—Mental remedies for the improvement of memory—On the cultivation of the memory—Montaigne's loss of memory—On the advantages and disadvantages of a commonplace book—Impairment of memory the result of undue straining in early life—Importance of the careful cultivation of the memory—Excessive straining of the memory in schools—When does the intellect begin to decline?—The vital, not the intellectual, principle affected in old age—Celebrated men who have retained their intellectual powers to a great age, as exhibited in the lives of Cherubini, Corneille, M. des Quensounnières, M. Leroy, Fontenelle, Voltaire, Richelieu, Mr Waller, John Mapletoft, Titian, Benjamin West, R. Cumberland, Handel, Ben Jonson, Sir Isaac Newton, Locke, Dr Johnson, Bacon, Chaucer, Sir E. Coke, Lord Eldon, Lord Kenyon, Lord Hardwicke, Lord Stowell, Bolingbroke, and Lord Mansfield—Is great vigour of memory allied to defect of judgment?—The memory of idiots—Great strength of memory combined with intellectual vigour, illustrated in the lives of Dr Johnson, Edmund Burke, Clarendon, Gibbon, Locke, Archbishop Tillotson, Grotius, Pascal, Leibnitz, Euler, Muratori, Ben Jonson, Themistocles, Cyrus, Hortensius, Niebuhr, Sir James Macintosh, Dugald Stewart, Dr Gregory, and Seneca—The effect of literary pursuits upon longevity—Dr Caldwell's remarks on this subject—Kind treatment of the insane—Duties of the psychological physician, ... 505—572

APPENDIX.

AUTOBIOGRAPHY OF THE INSANE.

Letters from patients after recovery—Confessions of the insane after recovery, ... 573—596

INDEX, ... 597—616

ON THE OBSCURE

DISEASES OF THE BRAIN

AND

DISORDERS OF THE MIND.

CHAPTER I.

INTRODUCTORY OBSERVATIONS.

When considering the treatment of diseases of vital structures, the practical significance of the well-known apophthegm of Hippocrates, "ὁ δὲ καιρὸς ὀξὺς," should never be forgotten.

"The occasion fleeting!" Let this profoundly wise axiom be ever present to the mind and engraven in imperishable characters upon the memory; for if these "fleeting" moments of incalculable value are trifled with, and serious morbid states of brain are overlooked, or, if recognised, not immediately subjected to proper treatment, chronic, irreparable, and incurable organic alterations in the material instrument of thought may be the result, succeeded, when it is too late to remedy the mischief, by the bitterness of self-accusation and unceasing lamentations of those who ought to have been the first to observe and attack the fatal lesion.

How often does the physician witness the melancholy

consequences to health of body and mind, life and reason, of a neglect of well-marked premonitory symptoms of cerebral disease and mental disorder. It is frequently his painful duty to hear relatives and friends reproach themselves, when the time for action has passed away, for closing their eyes to long-existing evidence of serious disease of the brain.

The late Dr Marshall Hall, who was admirably qualified, by habits of thought, education, practical sagacity, and enlarged experience, to form a right estimate of the importance of an accurate acquaintance with the incipient symptoms of the diseases of the nervous system, remarks—"A useful work might be written on the subject of insidious and impending diseases, with the view of making their first or antecedent symptoms known to the public, and of thus suggesting the care and means necessary for their prevention." It was the painful province of this distinguished physician, in the course of a long and brilliant career, to witness the sad consequences of the neglect of the precursory or premonitory symptoms of those organic affections of the brain for the relief of which his great skill and extensive knowledge were so often called into requisition. He fully appreciated the importance of an early recognition of those morbid conditions, and the necessity for prompt remedial treatment.

When investigating the history of many cases of disease of the brain, how often does the medical man discover that unequivocal cerebral symptoms have existed, and perhaps during the early stage been partially observed, without exciting any apprehension on the part of the patient, his family, or friends.

In numerous instances of the kind, clearly-manifested *head* symptoms have been entirely overlooked. If noticed, no right estimation was made of their value. Attention

has often been called to cases in which serious mischief to the delicate structure of the brain and its investing membranes has been thus permitted to proceed uninterruptedly for years, no treatment having been adopted to arrest the progress of the fatal disorganisation.

The brain—the most important and exquisitely organised of all the structures of the human body, the physical instrument of intelligence, centre of sensation, and source of volition, the repository of nervous power—is permitted to be in a state of undoubted disorder, without exciting any attention, until some frightfully urgent, alarming, and dangerous symptoms have been manifested, and then and not till then, has the actual extent of the mischief been appreciated, the condition of the patient recognised, and advice obtained for his relief.

Other deviations from health, as a general rule, are not so neglected. In affections of the stomach, liver, bowels, lungs, and skin, the first symptoms of approaching disease are in most cases immediately observed, and the patient, without loss of time, seeks the aid of his physician. But when the brain is implicated, and the patient complains of persistent headache, associated with some slight derangement of the intelligence, disorder of the sensibility, illusions of the senses, depression of spirits, loss of mental power, or modification of motility, is not his condition, in many cases, entirely overlooked or studiously ignored, as if such symptoms were signs of robust health, instead of being, as they frequently are, indications of cerebral disorder requiring the most grave and serious attention, prompt, energetic and skilful treatment?

May not the neglect to which the brain is occasionally subjected when under the influence of disease be owing to a notion, too generally entertained, that many of the more fatal forms of cerebral disorder are *suddenly*-developed

affections, presenting no evidence of any antecedent, encephalic, organic, or functional change, and unaccompanied by a premonitory stage or incipient symptoms.

It is perhaps natural that such an idea should be entertained even by educated professional men, whose attention has not been specially directed to a study of this class of affections, or whose opportunities of watching their progress have been unavoidably limited and circumscribed.

A man, apparently in vigorous health, mixing daily with his family, going to his counting-house, engaging in the active pursuits of commerce, or occupied in professional or literary duties, whilst entering his carriage, or when entertaining his friends at dinner, falls down either at his door in a state of unconsciousness, the effect of cerebral hemorrhage, or quietly bows his head and dies.

A midwife sitting by the bed of a patient whom she was attending, suddenly exclaimed, "I am gone!" and immediately lapsed into a state of apoplectic coma.

A gentleman, during dinner, complained suddenly of giddiness and sickness. He retired to another room, where he was found a minute afterwards supporting himself by a bed-post, confused and pale. He soon became comatose, and died.

A person in good health, after using rather violent exercise in the forenoon, returns home to dinner, and whilst sitting near the fire, without any warning, starts up, pushes his chair backwards with violence, and exclaims, "Oh, my head!" Immediately afterwards he falls on the floor in a state of apoplectic insensibility.

A literary man, whilst speaking at a public meeting, is suddenly seized with an uneasy sensation in his head. He feels "as if it would burst," and imagines that "the brain is too big for his skull." He returns home, becomes apoplectic, and dies on the evening of that day.

A clergyman, whilst preaching, is suddenly observed to stop, and put his hand to his head. He then attempts to proceed with his sermon, but articulates indistinctly, and has evidently lost his recollection. He preserves himself from falling by grasping the side of the pulpit. He is immediately removed from the church, cold, pale, speechless, paralytic, and dies in a few days afterwards.*

A young lad, who had not previously complained of ill-health, or of any uneasy head symptoms, suddenly awoke from an apparent state of sound slumber, and began screaming "Oh, my head! my head! my head!" Before his parents could be summoned into the room he became insensible, and died without being restored to a state of consciousness.†

A medical gentleman, of known reputation and great personal worth, having been to one of her Majesty's levees, visited, on the evening of that day, the home of a friend in the environs of town. He appeared, during dinner and afterwards, in excellent health and spirits. After playing a rubber of whist, he retired with his wife to bed, complaining of general lassitude, but exhibiting no other sign of bodily indisposition, In the middle of the night he was found by her in a state of apoplectic coma. In the attempt made to place him on his back he heaved a deep sigh, and instantly expired.

A surgeon was sitting with some of his pupils at dinner,

* After death there was found in this case extensive extravasation of blood in the left ventricle, which had passed partly into the right, by laceration of the septum. All the arteries of the brain were extensively ossified.—ABERCROMBIE.

† All the ventricles were completely filled with coagulated blood. In the substance of the left hemisphere there was a cavity formed by laceration of the cerebral substance, filled also by the coagulum, and communicating with the ventricle. There was no other morbid appearance.—ABERCROMBIE.

having apparently been previously in the enjoyment of excellent health, when he was seen suddenly to drop his knife and fork, lean his head upon the table, and become unconscious. He died almost immediately.

The history of these sad cases may perhaps be carefully investigated, without affording satisfactory evidence of any distinctly-marked precursory symptoms that would justify the suspicion of the presence of latent and concealed mischief within the cranium. There may have been headache, defective articulation, dimness and loss of vision, vertigo, cerebral lassitude, and evanescent attacks of mental depression and confusion, but of so trivial and unimportant a character as not to awaken apprehension or excite attention.

In many similar instances it is affirmed that no appreciable incipient stage could be discovered. The attack, whether one of apoplexy, acute softening, paralysis, epilepsy, meningitis, cerebritis, or mania, had all the characteristics of a *sudden* and unexpected seizure, which no prudence could have anticipated or foresight prevented, even although the patient's state of brain and general health had been made the subject of careful and anxious medical analysis.*

It occasionally happens that in some cases, from false

* "Almost all affections of the head," says the late Dr Armstrong, "though they *appear* to be sudden, will be found, on examination, to be very slow, *especially madness.* If the case, whether it occur in a congestive or in an excitive form, be traced backward, you will find evidence of the patient having, in the one case, been in a most depressed state of mind, and in the other, of his having been in a most active state of mind; and in both cases it will appear that the stomach, liver, bowels, head, and skin were affected. This is important to remember in a preventive point of view. Examples of this kind have occurred in public characters. We have lost a Romilly, a Whitbread, and a Castlereagh; and the history of these distinguished men shows that their corporeal functions were disordered before their madness came on.

delicacy, ignorance, or neglect of close investigation, what, *à priori*, would be considered as most important symptoms of serious brain disorder, are represented to be altogether absent. For example, attacks of apoplexy and paralysis are alleged to occur without being preceded by any *observable* cerebral symptoms. There have been no headache, alienation of mind, lesion of the sensory or motor powers, to warn the unhappy patient or his friends of the enemy's approach. The fatal, obscure, and insidious disease has crept quietly and stealthily on its victim, giving no sign of its advent, no indication of its advance, no notice of its presence, until it has surprised the sentinels, boldly seized upon the outposts, scaled the ramparts, and by what may not inaptly be termed a pathological *coup de main*, taken possession of the citadel.

Even where the experienced and conscientious physician makes an effort to become acquainted with the past condition of his patient, how often is he baffled by the information he receives. To the often-repeated interrogatory, "Have there been observed any previously-manifested symptoms of disorder of the brain and nervous system?" how commonly is the response, "No, none whatever; the patient has not known a day's illness—his brain has never shown the slightest indication of any kind of disorder." It is singular, in some cases, how pertinaciously and obstinately all idea of past and even existing cerebral indisposition is emphatically ignored and zealously repudiated by the relations of the patient. But how often does the physician detect, before he concludes his investigation of the history of the case, that his patient has exhibited, previously to his attack, evidences of the threatening and approaching storm, which, if seen, had not been made matter of observation, reflection, anxiety, or treatment. The headache has been attributed to

derangement of the stomach or biliary disorder; the vacillation of temper, feebleness of purpose, flightiness of manner, paroxysms of irritability or passion, inaptitude for business, depression or exaltation of spirits, the loss of sensibility, even manifest lesion of motor power, have all (if made the subject of comment) been thought to arise from some trifling and transient bodily ailment connected with the digestive, hepatic, or renal organs.

Epileptic vertigo, cerebral headache, and disordered conditions of vision, caused by the pressure of a tumour in the central portions of the brain, have been known to exist for some time without exciting a suspicion as to the presence of serious disease. The attacks of epileptic giddiness have occurred unobserved at night, with little or no convulsive movement or loss of consciousness; the headache has been considered to be of a bilious, rheumatic, or nervous character; the impairment of vision may have been treated as an affection of the eye, unconnected with disease in the part of the brain immediately connected with sight, for the relief of which the *optician*, instead of the *physician*, has been consulted; and thus have all the salient, important, and significant symptoms of organic brain-mischief been permitted to undermine the bodily health, damage and impair the intellect, threaten the extinction of reason and destruction of life, without any remedial or palliative treatment being adopted to arrest the steady and onward advancing progress of the fearfully destructive cerebral disorganisation.

Fully recognising the obscurity in which this subject is involved, I would ask, whether the affections of the brain in the majority of cases are not preceded by a well-marked, clearly-defined, but often undetected and unobserved precursory stage? Is it possible for a person to be suddenly laid prostrate in death by an attack of

apoplexy, cerebritis, meningitis, paralysis, acute softening, or mania, evidencing after death long-existing chronic alterations in the cerebral structure, without having exhibited, for some time previously, faint and transitory they may be, but nevertheless decidedly characteristic symptoms, pointing unmistakeably to the *brain* as the *fons et origo mali?**

Is not the alleged absence of all premonitory symptoms more *apparent* than *real?* Would not the antecedent pathological history of these cases, if carefully unravelled and cautiously analysed, afford conclusive, if not demonstrative evidence of a prior state of unrecognised brain disorder?

A man dies of what is termed a *sudden* attack of cerebral hemorrhage, or succumbs to chronic softening of the brain. The *post-mortem* examination reveals a state of serious organic change in the structure of the brain, which, from its anatomical character, must have been of long duration and of slow and progressive growth. The blood-vessels in the head are found in a state of fatty degenera-

* I fully realise the fact, that in many cases of sudden death the heart is *primarily*, and the brain *secondarily* affected. This will account for the absence of all morbid conditions of the brain in many cases of death from what is termed apoplexy, associated with appreciable organic diseases of the heart.

It is often difficult to decide, in cases of sudden death conjoined with head symptoms, what proportion of the fatal issue is attributable to the heart and what to the brain. If the former organ be examined after death, and the slightest alteration is detected in its structure, the conclusion drawn is, that this is the cause of death, even although the vessels of the brain may be discovered in a condition of great turgescence. Under such circumstances, we have no right to infer that the brain has had nothing to do with the death, merely because the heart is found either in a partial state of disease, or weak, small, and flabby in its condition. It would be safer, under such circumstances, to conclude that death has been caused by the combined effect of disorder in both organs.

tion, or the seat of atheromatous deposits. A scirrhous tumour is discovered embedded in the substance of the cerebral mass, the consequence of an injury inflicted upon the cranium some years previously. An encysted abscess is detected in the head, evidently not of recent origin. There may exist an aneurismal tumour connected with one of the cerebral arteries, a considerable thickening and opacity of the membranes enveloping the encephalon, or dipping down between its *sulci*, or an extensive pulpy disorganisation of the brain, involving a large portion of one of its hemispheres.

Upon *à priori* reasoning the physician has no right to conclude that such a degree of fatal organic cerebral lesion could have been developing itself for *months*, and, in some cases, for *years*, without impairing, deranging, disturbing, or modifying the recognised and admitted psychical, motor, and sensory functions of the cerebro-spinal system. Has the intelligence in such cases been intact, the volition unenfeebled, the emotional powers obedient to the mandates of the will, the brain free from all symptoms of *physical* as well as *psychical* disturbance, the cerebral circulation (as respects the *quantity*, *quality*, and *momentum* of the blood sent to the brain) been proceeding in healthy integrity; the sensibility natural, the organs of special sense, viz.—*sight*, *smell*, *hearing*, *taste*, and *touch*—in a normal state of activity; the life of relation, as well as the phenomena of nutritive and organic life, free from all signs of derangement?

It is well established that no structural change can originate in the heart, lungs, liver, stomach, uterus, kidneys, or bladder, without presenting, prior to death, obvious symptoms of its existence. Tubercular disease of the lungs, hydatids of the liver, cancer of the uterus, calculus of the bladder, fatty degeneration of the kidneys, hypertrophy,

and valvular disease of the heart, cannot (in the majority of cases) exist without manifestly, and often seriously, disturbing the special functions of these organs. Upon what principle, then, should the brain be an exception to the general pathological and physiological laws regulating other organic structures ?

Affections of the brain, like those of other organs, have a premonitory and precursory stage. In the majority of cases the mischief established within the cranium, disorganising the delicate tissue of the brain, may, upon careful examination, be detected. There are incipient signs which serve to guide the inquiring, observant, and intelligent eye of the practical physician, and enable him, with some degree of certainty, to discover the early evidences of brain disease, even when the patient and those about him repudiate all idea of cerebral ill-health, and refuse to acknowledge the necessity for medical advice or treatment.

I do not affirm that, in all cases of disease of the brain, the physician, even if his attention were closely riveted to the existing pathological condition, could satisfactorily ascertain its exact nature, or point out its precise locality ; but he will have little or no difficulty, after carefully analysing the case, in deciding the *general* question, whether the brain is the *seat* of disease, and the disorder, apparently referrible to that organ, is of a sympathetic or an idiopathic character.

Organic changes may, undoubtedly, to a considerable extent, be developed in the material instrument of the mind without, for a period, in a marked manner, interfering with the *mental, sensory,* or *motor* functions. This admits of a satisfactory explanation.

This disorder of the functions of the brain, in the early period of its manifestations, is often of so light and transient a character that it is easily overlooked by the patient as

well as by his physician. An apparently unimportant knitting of the brows, a trifling sensation of numbness in some part of the body, a condition of general or local muscular weakness, a state of *ennui*, mental peevishness, irritability, and physical restlessness, an almost unappreciable depression or exaltation of the animal spirits, an impairment and disorder of the sense of sight, loss, aberration, or confusion of memory, defect in or acute manifestation of the sense of hearing, an inaptitude for mental work, an inability to concentrate the attention continuously on any subject, a state of sleeplessness or condition of lethargy, a trivial deviation from the usual mode of talking, such as suddenly pausing in the conversation, as if to regain a lost train of ideas, a slight defect in the articulation, associated with a transposition of words and inability to pronounce certain letters, are, although they may be consequent upon mere functional disturbances of the nervous system and disorder of the general health, all characteristic symptoms, frequently significant of serious disease having commenced in the brain.*

How often do we discover, when the history of a serious case of brain disease is made a matter of investigation, that for years prior to its *apparent* existence the patient has exhibited symptoms of cerebral disorder, somewhat similar to those just detailed, which have entirely escaped observation.

Slight epileptiform seizures, marked deviations from healthy thought, obvious impairment of the intelligence, occasional loss or exaltation of sensation in some part of the body, trifling defect of motor power, and headache of an acute type, have existed for some time previously to the *supposed* commencement of the disease, and yet have entirely escaped observation, and if recognised, been soon forgotten by the patient and his friends.

* *Vide* the interesting case of the late King of Sweden, detailed in the chapter on "The Morbid Phenomena of Attention.

The alterations of structure so frequently observed after death on the internal table of the skull, *dura mater, pia mater, tunica arachnoidea,* and in the fibrous as well as in the vesicular structure of the brain, are commonly the results of long-continued irritation, capillary congestion, inflammation (causing depositions of adventitious matter), *toxic* agents circulating in the blood producing modifications of cerebral nutrition, morbid changes in the coats of the blood-vessels of the brain which have, in many cases, commenced years anteriorly to the attention being awakened to the state of this organ, and before death has revealed to the eye of the pathologist the sad extent of fatal structural disorganisation that has been progressing, almost unrecognised and untreated, within the cranium.

In considering this subject, we are bound not to ignore the fact that the brain has great accommodating power, and is facile to the existence of a considerable degree of organic pressure, if equally diffused, and of structural lesion, provided it be restricted to the medullary matter, and has been of slow and progressive growth, while the smallest amount of sudden extravasation of blood, the effect of the rupture of one of the minute cerebral vessels on the surface of one of the hemispheres, or on the *corpus striatum, thalami optici, pons varolii,* or *medulla oblongata,* is immediately followed by *paralysis* or *convulsions,* and often by death itself. A considerable extent of pulpy disorganisation, or softening of the cerebral structure, large amount of fluid effused into the ventricles, or great extent of thickening and opacity of the membranes investing the encephalon, as well as large collections of encysted pus in the shape of abscesses, may exist embedded in the substance of the brain without apparently for a period disordering, to any serious extent, its functions.

It is necessary, for a right appreciation of this subject,

that we should fully recognise, as one of the laws regulating and governing the physiological action of the brain, that although it is admitted to be the material instrument of the mind, the seat of sensation, the organ which takes cognisance of impressions made either upon the peripheral extremities of the nerves, remote from the encephalon, or of those conveyed through the special senses directly to the sensorial ganglia, is, when in a state of health, insensible to any kind of irritation, or even laceration of its substance.

The brain, whilst destined to perceive acutely the painful impression of other organs, is itself not conscious, in the incipient stage of disease, of the lesions of its own structure. Its sensibility, however, becomes most acute under certain conditions of disease. Large portions of the hemispherical ganglia have been removed by the knife, and have even sloughed away without giving rise to any appreciable disturbance of cerebral phenomena, pain, or obvious inconvenience; but any injury, however slight, inflicted upon the *sensorial ganglia*, whether the result of a morbid process or artificial irritation, is invariably followed by great cerebral disorder, and unequivocal disturbance of their special functions.*

* As to the sensibility in those parts of the brain supposed to be the seat of the intellectual faculties, Sir Charles Bell observes, that we ought not to expect the same phenomena to result from the cutting or tearing of the brain as from injury done to the nerves. The function of the latter is to transmit sensation; that of the former is higher, and this is inferred from its being insensible. "If, on examining the structure of the brain," says the eminent physiologist, "we find a part consisting of white medullary striæ, and fasciculated like a nerve, we should conclude that, as the use of the nerve is to transmit sensation, such tracts of matter are media of communication connecting parts of the brain. If masses are found in the brain unlike the matter of the nerves, and which yet occupy a place guarded as an organ of importance, and holding evidently important relations, we may presume that such parts have uses different from that of merely conveying sensation; we may rather look upon such as the seat of the higher powers. I have found," continues the same authority, "at

The physiological physician has no difficulty in predicating the immediate effect of an alteration in the structure of, or mechanical pressure upon, the *thalami optica, pons varolii, corpora quadrigemina,* or *medulla oblongata.* The functions, as well as pathology of these and other ganglia, are well ascertained and fully established.

When referring to this subject, a distinguished physiologist says—"Considered theoretically, we should expect that the sentient fibres which proceed from the *medulla oblongata,* and expand themselves in all parts of the greater and lesser brain, would bestow on these formations, as well as upon the *medulla oblongata,* a high degree of sensibility. But experience gives results for which a satisfactory explanation is still entirely deficient; thus, if the cerebral hemispheres be laid bare in a mammal or bird—an operation which in itself in no degree destroys the capability of perceiving pain—we find that they can be touched and even transfixed without in the least disturbing the animal; it only struggles and cries out when the trifacial nerve, the crura cerebri, the optic thalami, or the medulla oblongata are accidentally touched. Again, if the hemispheres be removed by slices down to the centrum ovale, or to the cavity of the lateral ventricle, the animal remains as indifferent as if we were cutting a hair or a nail. The same phenomena have also been repeatedly observed in man: thus, a portion of the hemisphere projecting through a wound of the skull has been removed without producing any action; and again, parts of the substance of the hemisphere have been

different times all the internal parts of the brain diseased without loss of sense, but I have never seen disease general on the *surface of the hemispheres without derangement of the mind.* If I be correct in this view of the subject, then the experiments made upon the brain tend to confirm the conclusions which I should be inclined to draw from anatomy—viz., that the cineritious and superficial parts of the brain are the seat of the intellectual functions."

taken away by the surgeon, in removing pus or foreign bodies, without the patient's consciousness.*

To the sad neglect of incipient brain disease the attention of the medical profession should be studiously directed. Non-professional persons may in their ignorance consider the abnormal mental phenomena observed as healthy exaggerations of feeling, eccentricities of manner or extravagances of thought. It is not reasonable to expect that persons ignorant of the first principles of medicine should understand the important physiological principle that disturbed intelligence has the same relation to the brain that disordered respiration has to the lungs, pleura, and heart; but the physician should see that the importance of detecting the earliest symptoms of approaching or existing disease of the brain cannot, in a practical point of view, be over-estimated or exaggerated. Considering the peculiar and special functions of this organ, and the close sympathy established between the sensorium and other organic tissues—appreciating how slight and minute a degree of structural change in the nerve vesicle paralyses both body and mind, no difficulty can arise in estimating the value which should attach to the detection, at the earliest possible period, of the faintest evidence of any actual disease existing in the delicate nervous organisation.

How cautiously, zealously, and closely should the physician watch for the incipient dawnings of cerebral mischief. Who can guarantee the integrity of the intelligence, normal condition of the sensibility, and healthy action of the motor power, if the delicate vesicular structure is the seat of undetected morbid action? Is it not possible to predicate with certainty the result of neglected inflammation of the periphery of the brain? We should never lose

* "Lehrbuch der Physiologie des Menschen." Band II. Von Dr G. Valentin. P. 743.

sight of the fact, that no irritation or inflammatory action can exist for any length of time in the more important tissues or ganglia of the brain, without seriously imperilling the reason and endangering life.

How forcibly do these observations apply to the detection of the incipient symptoms of all types and degrees of mental disorder. It is a well-established fact that *seventy*, if not *eighty*, per cent. of cases of insanity admit of easy and speedy cure if treated in the early stage, provided there be no strong constitutional predisposition to cerebral and mental affections, or existing cranial malformation; and even when an hereditary taint exists, derangement of mind generally yields to the steady and persevering administration of therapeutic agents, combined with judicious moral measures, if the first symptoms of the malady be fully recognised, and the cerebral condition, without loss of time, combated by remedial treatment.

A vast and frightful amount of chronic and incurable insanity exists at this moment in our county and private asylums, which can be clearly traced to the neglect of the disease in the first or incipient stage.

Sir William Ellis, formerly of Hanwell Asylum, thus speaks of the sad consequences of neglecting to recognise and treat insanity in its early stage:—

"It is a melancholy fact that, on a most careful personal examination of each of the 588 cases now in the house, there do not appear more than fifty which, under the most favourable point of view, can be considered curable. *This is to be attributed almost entirely to the neglect of proper remedies in the early stages of the disease.* To become acquainted with the symptoms first indicating insanity, not only requires much care and attention, but much experience; for a diseased action of the brain, or some part of the nervous system, may be gradually under-

mining the health, and still be scarcely suspected by common observers to exist, from the insidious manner in which it steals upon the constitution at first. It manifests itself by some trifling aberration of intellect, and that generally upon one point only—such aberration, if unaccompanied by bodily pain, is not only neglected by the sufferers, but disregarded by those around them. This, however, is precisely the time when medical aid is the most capable of being beneficial; and could the patients but be placed under proper care then, certainly three-fourths of them would be cured. But, unfortunately, the golden opportunity is too often neglected. DISEASED ACTION *is allowed to proceed unchecked until* DISEASED ORGANISATION *has taken place, and the patient has become incurable;* and it is only in consequence of the commission of some violent outrage that he is at last sent to an asylum. Until something serious has occurred, the friends hope in a few days the mind will recover its tone.

"Unfortunately, this unwillingness to consider the patient sufficiently insane to be sent to an asylum is not confined to the friends of the patient. There have been instances of the magistrates themselves, from the kindest motives, refusing to grant warrants for the admission of a patient, even after he has been examined by a medical gentleman who has given a certificate of his insanity, because when brought before them he has been able to answer certain questions correctly. The consequence is, that from this delay, instead of returning to his friends in a few weeks, which in all probability would have been the case if proper medical and moral remedies had at once been applied, he becomes incurable, and remains in the asylum for life, a burden to the parish. In some instances, similar delay has been attended with fatal consequences.

"It is sincerely hoped that the knowledge of these circumstances will induce an early application to be made for the admission of patients, as, even if the neglect does not prove fatal, it is contrary to every principle of justice and humanity that a fellow-creature, deranged perhaps only on one point, should, from the want of the early attention of those whose duty it is to watch over him, linger out his existence separated from all who are dear to him, and condemned, without any crime, to be a prisoner for life."

Dr F. Hawkins, when speaking on the same subject, says—"The importance, or rather necessity, of recognising disorders of the head in their *early* stage, is obvious from the consideration that they can then alone be attacked with any chance of success. In acute cases, the period is brief indeed in which the power of art is available. But whether the case be acute or chronic, it is only in the early stage that its precise nature admits of being distinguished with accuracy. In its further progress, from the extensive sympathies of the brain with all parts of the body, so many functions become implicated, and so various are the symptoms which arise, as to preclude arrangement or classification, and defy the art of diagnosis. The aid which in most other cases the sensations of the patient are capable of affording us, is lost to us too soon in disorders of the head, until in their advanced state they all resemble one another, and present alike a dreary abolition of the powers of animal life. The period, therefore, is highly precious in which these affections admit of being distinguished with precision or treated with any hope of advantage."*

Let the physician estimate, in all its vital importance, the grave necessity for prompt treatment and decisive

* Croomian Lectures, delivered before the College of Physicians, May 1829.

remedial measures, when satisfied that the enemy is at the gates, and has attacked, or is on the eve of assaulting, the citadel. Under these circumstances, hesitation, delay, or procrastination in bringing the patient within the range of curative measures, is fraught with the direst results and with the saddest consequences. Let us not wilfully close our eyes to the premonitory signs, however apparently insignificant, slight, transient, and fugitive they may appear, of actual mental disorder and brain disease, for it is in this early stage when so much may be effected by judicious medical treatment to check the advance of the fatal cerebral mischief.

Having dwelt at some length on the existence of a precursory stage in all affections of the brain and on the importance of watching for the first threatenings of incipient cerebral disorder, I propose to investigate in detail the general character of the premonitory symptoms of encephalic and mental disease. It will be well, however, to premise that I cannot in this work do more than generalise on this wide and expansive subject.

When I address myself in the succeeding volume (on softening of the brain) to the consideration of *specific types* of brain disease, it will be my object to enter more elaborately into detail, and to point out, as far as practicable, the diagnostic premonitory signs of the various organic affections of the encephalon. Many of the symptoms to which I shall refer as valid evidences of incipient brain disorder will be found common to several lesions of this organ, each presenting an essentially different aggregate group of symptoms, as well as distinctive anatomical and pathological characteristics.

Nevertheless, I am of opinion that a *general* description or *resume* of the incipient signs of morbid conditions of the brain, before considering individual forms of cerebral

disease, will not be without its practical value and importance. Agreeably to this arrangement, I propose to analyse the subject in the following order :—

1. *Morbid Phenomena of Intelligence.*
2. *Morbid States of Motion.*
3. *Morbid Conditions of Sensation.*

This classification of the subject fully recognises the three physiological functions of the cerebro-spinal system, viz. :—

α. *Thought.* β. *Motion.* γ. *Sensation.*

4. *Morbid Phenomena of the Special Senses,* viz. :—

δ. *Sight* ζ. *Taste* θ. *Smell.*
ε. *Hearing.* η. *Touch.*

5. *Morbid Phenomena of Sleep and Dreaming.*

6. *Morbid Phenomena of Organic or Nutritive Life,* viz. :—

α. *Digestion and Assimilation.* γ. *Respiration.*
β. *Circulation.* δ. *Generation.*

In conclusion—*General Principles of Pathology, Treatment, and Prophylaxis.*

CHAPTER II.

MORBID PHENOMENA OF INTELLIGENCE.

THE brain being the material instrument of the intelligence, the physical medium or med*ia* through which the mind manifests its varied powers, it is philosophical to infer that no changes in its structure or investing membranes can take place, no alteration in the quality of the vital fluid or anatomical character or calibre of the numerous blood-vessels that circulate and ramify through its substance can exist, without, to some extent, interfering with or modifying its *psychical* functions. Cases, however, are on record in which serious injury has been done to the brain during life without apparently damaging the intelligence; and considerable encephalic disorganisation (as the result of disease) has taken place without any aberration, exaltation, depression, or impairment of the mind having been observed previously to death. If such cases have occurred, they must be considered either of a rare and exceptional character or as pathological curiosities, unless in every instance the alteration of structure be strictly confined to one hemisphere, or restricted to the fibrous or *conducting* part of the nervous structure, the *vesicular* or *grey* matter and its minute vessels remaining intact and entirely free from all morbid change or abnormal modification. Is it possible to conceive any great extent of dis-

organisation, even in the medullary portion of the cerebral mass, to exist without implicating to some degree the grey matter of the brain, and, as a consequence, deranging the phenomena of thought?

It is not my intention to discuss in this volume the complex questions (physiological and metaphysical) involved in an analysis of the psycho-somatic relation or union between mind and matter, life and organisation. It is sufficient for my purpose to affirm, as a postulate, that all structural lesions of the encephalon, its investing membranes and blood-vessels, are associated with some derangement, modification, or altered action of the *psychical*, *motor*, or *sensory* functions of the great cerebral ganglion, the πρῶτον Αισθήτηριον, or *sensorium commune*.

Softening of the brain, abscesses, tumours, atrophy, induration, and other forms of cerebral disorganisation, have, it is alleged, been discovered in the brain after death, without having disordered or even impaired the intelligence. But are not these to be viewed as unusual and anomalous pathological conditions—in fact, exceptions, that prove the rule?

If the mental and cerebral condition of those who have been represented to have died of organic disease of the brain, apparently in full possession of their intellectual, sensory, and motor powers, had been subjected to a close and rigid analysis, some degree of disorder or impairment of these functions would, I believe, in many cases have been detected. We are too much disposed to form hasty opinions, and to infer, because the patient talks rationally for a time on ordinary subjects, is under the influence of no appreciable illusion, hallucination, or aberration, that therefore the intellect is unclouded, and the brain in a perfectly sound and normal state; yet such apparently healthy psychical and cerebral manifestations

are quite consistent with the existence of encephalic disease, impairment, and even of actual latent and concealed mental aberration; and these conditions of the brain and mind would, I believe, be more frequently detected if sufficient time were devoted to their analytical investigation, and accurate pathological and psychical diagnostic tests were scientifically employed by experts practically acquainted with the art of examining the subtle phenomena of insanity.

It has been observed, "that could we see the interior workings of such intellects, they would be found altered, limited, perverted, or changed in some way from their normal condition, although it may not be discovered in their *external* manifestations. It should be recollected that there are many oddities which are dependent upon cerebral conditions, but which pass for mental peculiarities, and in this way the disordered actions escape notice. Yet *the rule* will be found logically true, that wherever there has been discovered the trace of organic cerebral change, there must have been disturbed mental manifestations."

In every case of disease of the encephalon, particularly if the organic change or pressure be established in the vesicular matter, or in the membranes immediately investing the brain, a disordered or abnormal state of cerebro-psychical phenomena may, in the incipient stage, on careful examination, be detected.

I now proceed to the investigation of the first or *psychical* section of the subject.

The mind may be in a state of morbid—

1. *Exaltation.*
2. *Depression.*
3. *Aberration.*
4. *Impairment.*

These conditions of unhealthy intelligence exhibit, in their origin, progress, and termination, a variety of shades and degrees of disturbance and disease commensurate with the nature, extent, and position of the cerebral lesion.

The state of mind included under the head exaltation often resembles in its earlier manifestations a trifling exuberance, excessive buoyancy, an unnatural elasticity, extravagance, or exhilaration of the spirits. The patient is unusually cheerful, voluble and violent in his speech, boisterously loquacious, manifesting phases of hysterical, emotional, and pleasurable *mental* as well as *physical* exaltation, which are rarely considered, except by the experienced observer in the early stages of diseases of the brain and alienation of mind, to be symptomatic of morbid *cerebral* or disordered *mental* conditions.

> "E ai volti troppo alti e repentini
> Sogliono i precipitii esser vicini."*—Tasso.

This unnatural and often *suddenly*-developed flow of animal spirits frequently merges into a state of unhealthy exaltation of mind and morbid cerebral excitement, clearly indicative of disease of the brain, irritation, congestion, or inflammation of its investing membranes, unhealthy blood poisoning the source of thought, disordered states of nerve nutrition, retained excretions (*urea?*), or disturbed intracranial conditions of the circulation.

When considering the second division of the subject—viz., that of depression—it will be apparent that this phase of mental disorder often ranges from mere listlessness, slight degrees of depression of spirits, tædium vitæ (the "*atra cura*" of Horace), and ennui, to profound conditions

* Our own illustrious poet thus gives expression to the same idea:—

> "These violent delights have violent ends,
> And in their triumph die."

of despondency, despair, and acute melancholia, frequently ending in suicide.*

It is in this state of insane thought that a terrible struggle occasionally ensues between an acutely morbid and often irresistible impulse to suicide, and the natural instinct of

* It is a fallacy to suppose a state of *ennui* to be one of *brain* rest and *psychical* inactivity. It is, in many cases, an active condition of the mind, unaccompanied by the pleasurable, and, consequently, healthy gratification usually associated with ordinary phases of intellectual labour and emotional excitement. "In life," says Pascal, "we always believe that we are seeking repose, while, in reality, all that we seek is agitation." "Is," says Sir W. Hamilton, "the '*far niente*'—is that doing nothing in which so many find so sincere a gratification, in reality a negation of activity, and not in truth itself an activity intense and varied? To do nothing in this sense is simply to do nothing irksome, nothing difficult, nothing fatiguing—especially to do no outward work. But is the mind internally the while unoccupied and inert? This, on the contrary, may be vividly alive—may be intently engaged in the spontaneous play of imagination; and so far, therefore, in this case, from pleasure being the concomitant of inactivity, the activity is, on the contrary, at once vigorous and unimpeded. . . . Ennui is a state in which we find nothing on which to exercise our powers; but ennui is a state of pain. All energy, all occupation, is either play or labour. In the former the energy appears as free and spontaneous; in the latter, as either compulsorily put forth, or its exertion so impeded by difficulties that it is only continued by a forced and painful effort, in order to accomplish certain ulterior ends. Under certain circumstances, play may become a labour, and labour may become play."

A mind *ennuyed* may unconsciously be occupied in the contemplation of mentally distressing and physically laborious and distressing thoughts. Let us, therefore, not flatter ourselves with the illusion that a life of idleness and inactivity is necessarily one of repose, rest, and freedom from painfully-perturbed thoughts. How true it is—

> "A want of occupation gives no rest;
> A mind quite vacant is a mind distressed."

A gentleman of polished manners, suffering from morbid ennui, said to his physician, "A ride out in the morning, and a warm parlour and a pack of cards in the afternoon, are all that life affords." He was persuaded to have an issue on the top of his head, as he complained of dull headache, which, being unskilfully managed, destroyed the pericranium to the size of an inch in diameter. He was very indignant during the time the wound was healing, and in a fit of profound *ennui* shot himself.

love of life, worldly prudence, religion, and morality, that occasionally retain a mastery and exercise a controlling influence over the mind goaded on by disease to self-destruction.

In the morbid mental affections included under the heads of aberration and impairment are observed various gradations (blending almost imperceptibly with each other) of moral and intellectual disorder and weakness, extending from the mere shadowy forms of false perception, erroneous judgment, paralysed volition, perversions of the moral sense, derangement and confusion of thought, to hallucinations and clearly-manifested insane delusions; and from brain-fag, cerebral lassitude, loss of mental stamina, tone, weakened memory (*dysmnesia*), actual loss of memory (*amnesia*), and flagging powers of attention, to obvious states of imbecility and idiocy.

In analysing the precursory symptoms of cerebro-psychical disease, it will be important to remember that the early signs of appreciable modifications of mental health often resemble, in a remarkable degree, temporary and transient exaggerations of natural and healthy conditions or states of mind, the first symptoms of the psychical affection being recognised by certain marked deviations from ordinary healthy phases of *thought*, and normal modes of action or *conduct*, to states of an opposite character.

CHAPTER III.

PREMONITORY SYMPTOMS OF INSANITY.

THIS section will be considered in the following order :—

1. *Anomalous and masked affections of the mind.*
2. *Stage of consciousness.*
3. *Exaltation of mind.*
4. *Depression of mind.*
5. *Aberration of mind.*
6. *Impairment and loss of mind.*

This classification of the phenomena of disordered thought will embrace the more prominent and salient points connected with the subject of incipient insanity.

Previously, however, to my considering any one of the preceding sections, I propose to discuss cursorily—

1. *The present limited knowledge of the physiology of the nervous system, and ignorance of the phenomena of mind and life.*
2. *Analogy between insanity and dreaming.*
3. *State of the mind, when passing into a condition of alienation, as deduced from the written confessions of patients after recovery from attacks of insanity.*
4. *Morbid phenomena of thought, as manifested during the states of transition and convalescence.*

In order to obtain a right appreciation of the mind in its

incipient as well as matured conditions of disorder, it will be requisite to analyse with metaphysical exactness, scientific and medical precision, the intellect when in such states of unhealthy manifestation. These are four *points d'appui* in this important inquiry, and if elaborately and faithfully investigated, an insight may be obtained of morbid psychical phenomena still deemed obscure, if not altogether inexplicable.

Before analysing the premonitory symptoms characteristic of the various types and phases of mental and cerebral disorder, it will be well to refer to the following important preliminary interrogatories as prefatory or starting points. What is insanity? Is its nature known, its essence discovered, and are the laws governing its phenomena understood? What is the constitution of its *materia morbi*, the exact condition of the moral and intellectual faculties, emotions, instincts, or passions during, to use the significantly suggestive language of Coleridge, "the mind's own revolt upon itself?" In what does mental derangement consist? Is it an affection of the moral, intellectual, emotional, or perceptive faculties; and are the reason, judgment, memory, or imagination most implicated in the malady? Is there a type of insanity manifesting itself more in *conduct* than in the *ideas?* What is the nature and where the seat of the alienation of mind? In which of the mental faculties does the disease commence its ravages? and where is the precise position in the brain of the latent insane *nidus* or germ?

Has insanity a *centrifugal* or a *centripetal*, a subjective or an objective origin? In less technical phraseology, do the disordered ideas of the insane depend upon *centric* causes of irritation and disease operating from within to without, or are they the consequences of *eccentric* or objective influences acting from without to within: in other words, are we to consider the symptoms of mental alienation as emana-

tions from the brain, similar in character (to borrow an appropriate image) to the "rays of light proceeding from a body which is itself ignited," or are they analogous to the rays reflected from a polished surface in intimate organic sympathy with disordered action established in a remote part of the body?

Is insanity an affection of the mind *per se?* Has the disease a psychical or a somatic origin? Is it possible for thought in the abstract to be diseased? Does alienation of mind depend not exclusively upon a psychical or somatic cause, but upon a disturbance in the normal *relations* existing (in states of cerebral and mental health) between the white and grey matter of the brain?

Before endeavouring to solve these subtle and abstruse psychological problems, it will be necessary to ask what is mind? Have we any knowledge of its *nature,* clue to its *seat,* accurate idea as to its mode of *action,* or right conception of its *essence?* What are the modifications, the metamorphoses, organic or functional, which the vital principle and nerve-force undergo during their passage through the exquisitely-organised and highly vascular cineritious and vesicular brain structure?

How does the occult mental principle, believed by physiologists to be evolved in the *grey* matter of the brain, become so mysteriously and marvellously changed from *nerve* to *mental* force, and *vice versâ,* in the hemispherical ganglia? Is the development of psychical phenomena the result of what is termed a correlation of the two preceding modes of dynamical action, or is mind a new creation, essence, principle, or power organised or elaborated in the vesicular portions of the cerebral mass?

What is the nature of the *vis nervosa* of Haller? Is the brain a galvanic battery, and are the nerves constituted like electric wires for the transmission of impressions? Is the

mysterious and undefinable fluid or force circulating in the nerve-tubes a voltaic current identical with that of electricity, or one, in its essence and *modus operandi*, entirely *sui generis?* What is the *vis vitæ*, and how is it associated with, and dependent upon, organised structures? What are the relations between the intellectual and vital manifestations? Are not all these great problems of organic and psychical life still, with physiologists, *sub judice?** Have we arrived at any exact knowledge of the substratum of nervous matter? Are we not obliged to confess our ignorance of the principles of vitality as well as of intelligence? Do we know anything of their nature or essence? Is not our knowledge of mental as well as of vital phenomena entirely confined to an acquaintance with these powers as *manifested* during life?† If our ignorance of healthy psychical

* Speaking of the mysterious union of mind and matter, St Austin says—

"Materiam spiritumque cognoscendo ignorari et ignorando cognosci."

"Man is to himself the mightiest prodigy in nature, for he is unable to conceive what is body, still less what is mind; but, least of all, is he able to conceive how a body can be united to a mind; yet this is his proper being" (Pascal). "A contented ignorance," says Sir W. Hamilton, when referring to this subject, "is indeed wiser than a presumptuous knowledge; but this is a lesson which seems the last that philosophers are willing to learn. In the words of one of the acutest of modern thinkers, 'Magna immo maxima pars sapientiæ est quædam æquo nescire velle.'"

† "The motion we annex to the words matter and mind," says Reid, "is merely relative. If I am asked what I mean by matter, I can only explain myself by saying it is that which is extended, figured, coloured, moveable, hard, rough and smooth, hot or cold—that is, I can define it in no other way than by enumerating its sensible qualities. It is not matter or body which I perceive by my senses, but only extension, figure, colour, and certain other qualities which the constitution of my nature leads me to refer to something which is extended, figured, and coloured. The case is precisely similar with respect to mind. We are not immediately conscious of its existence, but we are of sensation, thought, volition —operations which imply the existence of something which feels, thinks, wills."

Sir Isaac Newton was asked why he stepped forward when he was so

conditions is so profound, is it practicable for the psychological inquirer to arrive at an accurate knowledge of mind when disturbed and disordered by disease? Have not all the efforts that have hitherto been made to solve the mystery connected with alienation of thought proved utterly unproductive of any scientific results? Is there any theory of insanity yet propounded from the bench, taught in the schools, or registered in our text-books, which will bear the test of metaphysical analysis, or stand the ordeal of strict medical or legal criticism? Distinguished philosophers, experienced psychological physicians, accurate and profound logicians, have vainly attempted to discover the nature of this disease, with a view of possessing a key to its accurate definition. The pursuit, it must be admitted, has hitherto signally failed. Let us then, in a spirit of humility, fully acknowledge the extent of our ignorance of subtle abnormal mental phenomena, as well as our limited knowledge of the healthy constitution of the human mind.

"We sometimes," says an eminent philosophical writer,

inclined, and from what cause his arm obeyed his will? He honestly replied that he knew nothing about the matter. If we were to follow the example of this great philosopher, and modestly admit our ignorance of those subjects about which we really have no knowledge, we should have a just conception of the shallow pretensions of man. No undertaking would perhaps prove more beneficial to mankind than that which endeavoured to draw a correct line of demarcation between what is really known and that which is merely conjecture.

Our notion of the nature of mind is as limited as our knowledge of material substances. "When we wish to have a rude knowledge of a piece of metal," says a great French philosopher, "we put it on the fire in a crucible; but have we any crucible wherein to put the soul? It is spirit, says one; but what is spirit? Assuredly no one knows. This is a word so void of meaning that, to tell what spirit is, you are obliged to say what it is not. The soul is matter, says another; but what is matter? We know nothing of it but a few appearances and properties; and not one of these properties or appearances bears the least affinity to thought."

"repine at the narrow limits prescribed to human capacity; 'hitherto shalt thou come and no further,' seems a hard prohibition when applied to the operations of the mind. But, as in the material world, it is to this prohibition man owes his security and existence, so, in the immaterial system, it is to this we owe our dignity, our virtue, and our happiness. A beacon blazing from a well-known promontory is a welcome object to the bewildered mariner, who is so far from repining that he has not the beneficial light in his own keeping, that he is sensible its utility depends on its being placed on the firm land, and committed to the care of others."*

Dr Reid, when referring to the limited nature of our knowledge, and the difficulties attendant upon the investigation of psychical as well as somatic phenomena, observes, "The labyrinth may be too intricate, and the thread too fine, to be traced through all its windings; but if we stop where we can trace it no farther, and secure the good we have gained, there is no harm done—a quicker eye may in time trace it farther."

I would, before entering into an analysis of the incipient symptoms of mental disorders and cerebral diseases, make a few cursory remarks on a subject of great psychological interest and medical importance, having a close bearing upon many points discussed in this volume. I refer, not only to the intimate union between the science of mind and that of practical medicine, but to the neglect of the study of moral therapeutics. I claim for the cultivators of medical science higher and more exalted functions than those usually assigned to them. The physician has at his command, and under his control, a *medicina mentis* as well as a *medicina corporis*—agents of great power and mag-

* "Essay on the Nature and Immutability of Truth," p. 79, by Dr James Beattie, LL.D.

nitude which have not been sufficiently recognised or appreciated. The close connection between the science of mind and the science and practice of medicine, and the true philosophic character of the professors of the healing art, is thus beautifully described by the Father of Physic, "Δει μεταγειν την σοφιαν εἰς την ἰατρικην, και την ἰατρικην εἰς την σοφιαν· ἰατρος γαρ φιλοσοφος ἰσοθεος."*

The practitioner of medicine forms but a low and grovelling estimate of his high destination and duties of his dignified vocation if he conceives that his operations are limited to a successful application of mere physical agents. "He whose horizon is bounded by an historical knowledge of the human machine, and who can only distinguish terminologically and locally the coarser wheels of this piece of intellectual clockwork, may be perhaps idolised by the mob, but he will never raise the Hippocratic art above the narrow sphere of a mere bread-earning craft."† The physician is daily called upon, in the exercise of his profession, to witness the powerful effect of mental emotion upon the material fabric. He recognises the fact, although he may be unable to explain its rationale. He perceives that moral causes induce disease, destroy life, retard recovery, and often interfere with the successful operation of the most potent remedial means exhibited for the alleviation and cure of bodily disease and physical suffering. Although such influences are admitted to play an important part either for good or for evil, I do not conceive that their great importance has been sufficiently appreciated.

"If a patient dies," says M. Reveillé-Parise, "we open his body, rummage among the viscera, and scrutinise most narrowly all the organs and tissues, in the hope of discovering lesions of some one sort or another. There is not a small vessel, membrane, cavity, or follicle, which is not

* Hippocrates. † Schiller.

attentively examined—the colour, the weight, the thickness, the volume, the alteration—nothing escapes the eyes of the studious anatomist. He handles, touches, smells, and looks at everything; then he draws his conclusions one way or another. One thing only escapes his attention, that is, he is looking at merely organic effects, forgetting all the while that he must mount higher up to discover their causes. These organic alterations are observed, perhaps, in the body of a person who has suffered deeply from mental distress and anxiety. These have been the energetic cause of his decay, but they cannot be discovered in the laboratory or the amphitheatre. Many physicians of extensive experience are destitute of the ability of searching out and understanding the moral causes of disease; they cannot read the book of the heart; and yet it is in this book that are inscribed, day by day and hour by hour, all the griefs, and all the miseries, and all the vanities, and all the fears, and all the joys, and all the hopes of man, and in which will be found the most active and incessant principle of that frightful series of organic changes which constitute pathology. This is quite true: whenever the equilibrium of our moral nature is long or very seriously disturbed, we may rest assured that our animal functions will suffer. Many a disease is the *contre-coup*, so to speak, of a strong moral emotion; the mischief may not be apparent at the time, but its germ will be nevertheless inevitably laid."*

In proportion as the physician estimates the effect of moral causes of disease will he be a successful practitioner, elevate himself in the social scale, and not only deserve, but command the respect of the public, and place the science of medicine upon the highest vantage-ground of which it is susceptible. How is it possible for the practitioner of medicine to influence the minds of others if he

* "On Moral Therapeutics." Paris.

has no knowledge of the laws governing his own understanding? As well might he administer for the relief of an acute malady a material agent of whose properties and *modus operandi* he is avowedly ignorant:

> "He that would govern others, first should be
> The master of himself, richly endued
> With depth of understanding, height of knowledge."
>
> MASSINGER.

Referring generally to the present aspect of the branch of philosophy whose claims I am advocating, I would, *in limine* observe, that the advancement of mental science has of late years been greatly retarded by the prejudices which have prevailed in reference to all abstract metaphysical investigations. An impression has existed that such inquiries unfitted the mind for the contemplation of subjects more immediately associated with the useful and practical affairs of every-day life; that the researches of metaphysicians only served to darken, bewilder, and dazzle the understanding, and to teach the use of pedantic jargon, obscure and transcendental phraseology. Hence arose the sarcasm, that to recommend a person to engage in the study of metaphysics was a delicate and indirect mode of suggesting the propriety of placing him under restraint in a lunatic asylum. "I am the person you wish to see," said the illustrious Plato to his foreign guests, who desired an introduction to the grave philosopher, under the impression that they were to see a man exhibiting qualities very different from those possessed by ordinary mortals. Does, I would ask, the mind grow severe in proportion to its enlightenment? Why should a knowledge of the most exalted department of philosophy unfit us for the active pursuits of life or for the society of mankind? Need we be surprised at the attempts which have been made, in the present utilitarian age, to depreciate the study of metaphysical philo-

sophy when we take a retrospective glance at its history? The modern metaphysician is engaged in more useful and loftier speculations than that of considering whether the *essence* of mind be more distinct from its *existence*, and what are the qualities inherent in it as a nonentity? Whether angels passed from one point of space to another without passing through the intermediate points? Whether they can visually discern objects in the dark? Whether more than one angel can exist at the same moment in the same physical point? Whether they can exist in a perfect vacuum, with any relation to the absolute incorporeal void? Whether, if an angel were *in vacuo*, the void could still be termed perfect? These, and similarly abstruse and absurd speculations, seriously occupied the patient attention of a few of the learned schoolmen and theologians of former times, and gave rise to the idea of the science of metaphysics being the art of talking grave nonsense upon subjects beyond the limits of the human understanding. We are not justified, however, in any wholesale condemnation of these apparently profitless and Quixotic speculations. May we not use the language of the founder of the Inductive Philosophy, and say of the ancient schoolmen, that, "in seeking for brilliant impossibilities, they sometimes discovered useful realities?"

Although the schoolmen were baffled in their attempts to discover the essence of the soul, and to ascertain, with any degree of satisfaction to their own minds, the precise number of angelic spirits who could *pirouette* at the same instant upon the point of a needle, they nevertheless opened a path for the philosopher, amidst the dreary forest which he had to traverse, and pointed out to him the dangerous portions of his journey, in which they themselves had stumbled and fallen.

Modern metaphysics, and its sister science, theology, hold the same relations to the rhapsodies of the schoolmen as

modern chemistry does to the speculations of the alchemist. No right-thinking man would repudiate the study of modern chemistry on account of the obscure and apparently profitless researches of the alchemists. By parity of reason, are we justified in denouncing the serious and patient study of mental philosophy on account of the scholastic jargon, non-entities, unmeaning generalities, and inanities, of some of the ancient metaphysicians?

In forming an estimate of the value of any branch of philosophical inquiry, we must be cautious how we apply the interrogatory, *Cui bono?*—neither must we adopt as our model of imitation the mathematician who, refusing to admit that any advantage could result from the study of a science not directly related to his own favourite study, exclaimed, when recommended to read Milton's "Paradise Lost," "What does it prove?"* Are the lofty emotions, glorious imagery, sublime speculations, the melodies that have charmed the ear, elevated the thoughts, improved the hearts, ennobled the nature, purified the manners, and thrown rays of sunshine over the dreary and thorny path of life, to be dismissed from our contemplation because they have no obvious and direct relationship to the practical business of life? Let us not encourage a vulgar

* "The question, '*Cui bono?*'—to what practical end and advantage do your researches tend?—is one which the speculative philosopher who loves knowledge for its own sake, and enjoys, as a rational being should enjoy, the mere contemplation of harmonious and mutually dependent truths, can seldom hear without a sense of humiliation. He feels that there is a lofty and disinterested pleasure in his speculations which ought to exempt them from such questioning; communicating as they do to his own mind the purest happiness (after the exercise of the benevolent and moral feelings) of which human nature is susceptible, and tending to the injury of no one, he might surely allege *this* as a sufficient and direct reply to those who, having themselves little capacity and less relish for intellectual pursuits, are constantly repeating upon him this inquiry."—*Sir W. Herschel.*

prejudice against those exalted inquiries that have no apparent association with the science of medicine, which constitute the charm and poetry of life, and exercise a powerful influence upon the intellectual progress of nations, civilisation of the world, character, happiness, and destiny of man.

Goethe, when referring to the effect of imaginative literature upon the heart and intellect, eloquently observes—"When the man of the world is devoting his days to wasting melancholy for some deep disappointment, or in the ebullience of joy is going out to meet his happy destiny, the lightly-moved and all-conceiving spirit of the poet steps forth to be the sun from night to day, and, with soft transitions, tunes his heart to joy or woe. From his heart, its native soil, springs up the lovely flower of wisdom; and if others, while waking, dream and are pained with fantastic delusions from their every sense, he passes the dream of life like one awake, and the strangest incidents are to him a part both of the past and of the future. And thus the poet is at once a teacher, a prophet, and a friend of gods and men. At the courts of kings, at the tables of the great, beneath the windows of the fair, the sound of the poet was heard when the ear and soul were shut to all beside; and men felt as we do when delight comes over us, and we pause with rapture if, among dingles we are crossing, the voice of the nightingale starts out, touching and strong. The poets found a home in every habitation of the world, and the lowliness of their position exalted them the more. The hero listened to their songs, and the conqueror of the earth did reverence to the poet, for he felt that without poets his own wild and vast existence would pass away and be forgotten for ever."*

Would that I could in equally lofty, fervid, and touch-

* "Wilhelm Meister."

ing eloquence impress upon others the conception which I myself have formed of the value—the practical importance—to the physician of a more general acquaintance with those branches of polite literature which chasten the taste, discipline the mind, develope holy aspirations after truth, invigorate the understanding, improve the heart, and keep in abeyance those corroding emotions which often embitter existence, engender disease, and shorten the duration of life. The science of mind has truly been designated "the science of ourselves," of all that surrounds us, "of everything which we enjoy and suffer, or hope and fear—so truly the science of our very being, that it would be impossible for us to look back on the feelings of a single hour without constantly retracing phenomena that have been there to a certain extent the subject of our analysis and arrangement. The thoughts and faculties of our intellectual frame, and all which we admire as wonderful in the genius of others—the moral obligation which, as obeyed or violated, is ever felt by us with delight or with remorse—the virtues of which we think as often as we think of those whom we love, and the vices we ever view with abhorrence or with pity—the traces of divine goodness, which never can be absent from our view, because there is no object in nature which does not exhibit them—the feeling of our dependence upon the gracious Power that formed us, and the anticipation of the state of existence more lasting than that which is measured by the few beatings of our feeble pulse,—these, in their perpetual recurrence, impress upon us the vast importance of a knowledge of the philosophy of the human mind." *

When referring to the influence of such studies upon the mind, Burke, with great eloquence and truth, observes that "whatever progress may be made towards the dis-

* Brown.

covery of truth in this matter, we shall not repent the pains we have taken in it. The use of such inquiries may be very considerable. Whatever turns the soul inward on itself tends to concentrate its forces, and to fit it for greater and stronger flights of science. By looking into physical causes, our minds are opened and enlarged, and in this pursuit, whether we take or whether we lose our game, the chase is certainly of service. Cicero, true as he was to the academic philosophy, and consequently led to reject the certainty of physical as of every other kind of knowledge, yet truly confesses its great importance to the human understanding—'*Est animorum ingeniorumque nostrorum naturale quoddam quasi pabulum consideratio contemplatioque naturæ.*' If we can direct the light we derive from such exalted speculations upon the humbler field of the imagination, whilst we investigate the springs and trace the courses of our passions, we may not only communicate to the taste a sort of philosophical dignity, but we may reflect back on the severer sciences some of the graces and elegances of taste without which the greatest proficiency in those sciences will always have the appearance of something illiberal."

This science, apart altogether from its direct utility, has other great and obvious advantages which, in the absence of more conclusive recommendations in its favour, ought to demonstrate to us the importance and value of a knowledge of our own mental constitution. The discipline, training, and expansion which the mind undergoes in the study of its own operations, are of themselves benefits not lightly to be appreciated. The cultivation of habits of accurate observation and reflection, patient attention, rigid induction, of logical ratiocination, qualifies the mind for the more ready pursuit of those branches of knowledge that are considered to be more closely connected with the

practical and active business of life. The mental *gymnasium* to which I refer is admirably fitted for the development, regulation, and cultivation of those faculties of the mind upon the right exercise of which depend our intellectual advancement and happiness.

It is not my wish, in advocating the claims of mental philosophy, to undervalue those sections of knowledge which have an almost exclusive reference to the *physical* sciences. I am quite disposed, however, to admit that it is an unfortunate effect of mere physical inquiry, when exclusively directed to the properties of external things, to render the mind in our imagination subordinate to the objects to which it is directed; the faculties are nothing, the objects are everything. The very nature of such inquiry leads us perpetually without to observe and arrange, and nothing brings us back to the observer and arranger within; or if we do occasionally cast an inquisitive glance on the phenomena of our thought, we bring back with us what Bacon in his nervous language calls the "*smoke and tarnish of the furnace.*" The mind seems to be broken down to the littleness of the objects which it has been habitually contemplating; and we regard the faculties that measure earth and heaven, and that add infinity to infinity, with a curiosity of no greater interest than that with which we investigate the angles of a crystal or the fructification of a moss. Such are represented by a philosopher of high standing as the inevitable consequences of a too exclusive devotion to the study of mere *physical* phenomena.* But I would advance a step further, and maintain that a knowledge of the philosophy of the human mind is indispensable to the successful prosecution of physical science—that without a knowledge of mental phenomena a high degree of perfection and accuracy could

* Brown.

not be attained in any of the collateral branches of knowledge.

I cannot dismiss this subject without directing attention to another neglected branch of study intimately associated with the science of medicine and mental philosophy, and one most essential to the education of the physician. I allude to *logic*.

Mr Stuart Mill places this science upon its right basis when he argues that logic is not (as some maintain) the science of *belief*, but of *proof* or *evidence*. Its object is not to teach the physician what the symptoms are which indicate disease: these he must acquire from his own experience and observation, or from that of others. But logic, as he maintains, sits in judgment on the sufficiency of that observation and experience to justify his rules, and on the sufficiency of his rules to justify his conduct. It does not give him proofs, but teaches him what makes them proofs, and how he is to judge of them. Logic can never show that the fact A proves the fact B, but it can point out to what conditions all facts must conform in order that they may prove other facts. "It is," says Mr Mill, "to use the words of Bacon, the *ars artium*, the science of science itself. All science consists of *data* and of conclusions from these *data*, of proofs and what they prove. Now, logic points out what relations must subsist between data, and whatever can be concluded from them; between proof and anything which it can prove." It is not sufficient to establish that a knowledge, a technical knowledge, of the process of reasoning, an apt appreciation of the use and application of recognised logical formulæ, is not actually necessary to enable a person to reason rightly in order to prove that an acquaintance with the science is not indispensable to the physician. It is true, as Dr Gregory observes, that a sailor may navigate a ship who is ignorant of the principles of navigation,

and a person may construct a dial who knows nothing of the principles of astronomy, spherical trigonometry, or the projection of the sphere. Extensive experience, a natural quickness of apprehension, an intuitive perception of the relationship between phenomena, a capability of ready generalisation, often make a man a good practical logician who has no knowledge of a syllogism or of the elements of logical science. Among the higher order of practical intellects there have been many of whom it was remarked, "how admirably they suit their means to an end, without being able to give any sufficient reason for what they do, and apply, or seem to apply, recondite principles which they are wholly unable to state."

But, as medical philosophers, we must not be satisfied with this natural aptitude or intuitive perception of the principles of logic. The science of medicine is especially amenable to the rules of inductive reasoning. Having to unravel the mysterious phenomena of life, and to investigate and treat certain deviations from its normal state, termed disease, the physician is peculiarly exposed to many sources of error and fallacy unless he cautiously keeps in view the great principles inculcated by the Baconian philosophy, and is guided by the unerring truths taught by its illustrious founder—

> "The great deliverer, he who from the gloom
> Of cloistered monks and jargon-teaching schools,
> Led forth the true philosophy."

There are but few gifted men in our profession, or in any other walk of modern science, of whom we could in justice say, that they were able to dispense with the patient study of facts or with the recognised *formulæ* of logical and inductive science. It was remarked of the immortal Newton, that he appeared to arrive *per saltum* at a knowledge of principles and conclusions that ordinary mathematicians

only reached by a succession of steps, and after the result of much labour, long-continued and profound meditation. It is only by strictly applying the principles of the inductive process of reasoning—by which we conclude that what is true of certain individuals of a class is true of the whole class, or that which is true at certain times will be true, under similar circumstances, at all times—that medicine will take rank with the exact sciences, and its cultivators have a right to claim a foremost position among the distinguished philosophers of the day. In the study of medicine, perhaps more than in any other science, we are peculiarly exposed to the danger of adopting false facts, of being seduced by specious and hasty generalisations, and led into error by declaring general principles from the consideration of a few particulars—the bane of all right and sound reasoning—the foundation of all bad philosophy. It is on this account that logic should form a part of the curriculum of every medical school.

In analysing the passions it is our duty to ascertain, if possible, the nature of the mysterious union existing between particular organic tissues and certain emotions of the mind. Why, for example, should the passion of fear specially affect the heart, and, if of long continuance, induce actual physical changes in the centre of the circulation? How can it be explained that in certain diseases of the heart the patient often manifests a morbid apprehension of some approaching calamity? Again, it is for the medical psychologist to ascertain the *modus operandi* of the passion of anger upon the hepatic secretion, and the re-action of disease of the liver upon the irascible temperament. How does fear cause diarrhœa, and predispose the system to the action of contagion? Again, may it not be possible to elucidate the action of terror in suddenly arresting hemorrhage, and explain why the apprehension of threat-

ened disgrace checks attacks of convulsive disease arising from a morbid principle of imitation, and arrests the progress of epidemic suicide? The emotion of hope is known specifically to influence the respiratory functions, and in the last stages of pulmonary disease the patient is often buoyed up with the certain expectation of recovery whilst the angel of death is hovering over him. "How frequently have I seen the delicate female, in the last stage of pulmonary consumption, lighted up, and everything assume a bright and cheerful aspect about her. New schemes of happiness have been contemplated, new dresses prepared, and everything was brilliant in her prospects, whilst her parents lived under the greatest apprehension and solicitude, the physician seeing nothing but inevitable fate for the poor victim whose distemper has deluded her."*

In endeavouring to solve these and other subtle points in pyschology, we must be prepared to encounter the ridicule and opposition of those who taboo all such speculations as futile and presumptuous. In the patient and persevering study of abstract philosphical truth, we must not be discouraged by such indifference and opposition. It may be legitimately within the compass of the medical-pyschologist, aided by discoveries in physiological and other collateral sciences, to unravel the nature of that mysterious union existing between mind and matter, and to trace the origin and source of the emotions, and the mode in which spirit and matter reciprocally act upon each other. The man devoted to the discovery of these great truths may be compelled to resign himself to the neglect and contumely of his contemporaries. Such, alas! has too often been the fate of those great and noble spirits who have shed undying lustre on the land which gave them birth, and the record of whose deeds forms the

* Sir H. Halford, M.D.

brightest spots in our country's annals. It is the recollection of the history of such martyrs to science as Harvey and Jenner which induced Coleridge to exclaim, "Monsters and madmen are canonised, whilst Galileo is buried in a dungeon!" A Brahmin crushed with a stone the microscope that first developed to his vision animalculi among the vegetables of his daily food. Professor Sedgwick, when referring to this fact, observes, "The spirit of the Brahmin lives in Christendom. The bad principles of our nature are not bounded by *caste* or *climate*, and men are still to be found who, if not restrained by the wise and humane laws of their country, would try to stifle by personal violence, and crush by brutal force, any truth not hatched by their own conceit, and confined within the narrow fences of their own ignorance."

In analysing the nature of the passions, ascertaining their connection with each other, mode of action upon the system, and special relationship to certain organic structures, it is necessary to recollect that they are planted in us for wise, beneficent, and noble purposes; and it is only when they are abased, and not subjected to a healthy discipline, that they induce disease, and affect the duration of life. While the impressions made upon the nervous system are moderate and restrained within due bounds, when there is a natural gratification of the passions, guided and ennobled by reason, the effect produced upon the system is rather of a beneficial than of a pernicious nature. The "passions are, in morals," says Sydney Smith, "what motion is in physics; they create, preserve, and animate, and, without them, all would be silence and death. Avarice guides men across the deserts of the ocean; pride covers the earth with trophies, mausoleums, and pyramids; love turns men from their savage rudeness; ambition shakes the very

foundation of kingdoms. By the love of glory weak nations swell into magnitude and strength. Whatever there is of terrible—whatever there is of beautiful in human events, all that shakes the soul to and fro, and is remembered while thought and flesh cling together,—all these have their origin in the passions. As it is only in storms, and when their coming waters are driven up into the air, that we catch a glimpse of the depth of the ocean, so it is only in the season of perturbation that we have a glimpse of the real internal nature of man. It is then only that the might of these eruptions, shaking his frame, dissipates all the feeble coverings of opinion, and rends in pieces that cobweb veil with which fashion hides the feelings of the heart. It is then only that nature speaks her genuine feelings; and as at the last night of Troy, when Venus illumined the darkness, and Æneas saw the gods themselves at work, so may we, when the blaze of passion is flung upon man's nature, mark in him the signs of a celestial origin, and tremble at the invisible agent of God."

It would be foreign to the design of this work were I to closely analyse, psychologically and pathologically, the mind when in a state of fully-developed insanity. This is a profound and intricate inquiry. Its vast importance entitles it to separate and undivided consideration. I propose, therefore, to reserve any exposition I have to make in reference to it for another volume. In that work I propose to consider in detail the mind in its simple and complex types of alienation, and to point out as far as practicable the nature of those deviations from normal psycho-somatic conditions observed in certain forms of mental disorder. Important as I consider this section of the subject, it does not exceed in interest or value the careful study of those points which I propose for present psychological examination.

I refer to the condition of mind in its incipient stage of disorder, when passing into one of its numerous phases of disease, and to its state when emerging from a *morbid* into one of *healthy* thought. It is by pursuing a *de*ductive as well as an *in*ductive course of pyschological inquiry; in other words, proceeding from the consideration of universals to particulars, and particulars to universals, thus ascertaining (to use the technical language of the schools) the relation in which the antecedent stands to the subsequent, and *vice versâ;* and by the adoption of a rigid process of analysis and synthesis, in relation to the insane *element* or *germ* evolved during the stage of incubation, as well as by a careful study of the laws governing the general operations of the mind at the approach of convalescence, and during the process of cure, that we shall be enabled to appreciate (if such a result be at all practicable) the true character and state of the intellect, when reduced to an automatic condition, and deprived by disease of its powers of healthy co-ordination.

The laws governing the operations of thought, or which produce that co-ordination of the various states of mind so essential to a healthy equilibrium of the understanding, are supposed by Cousin, after Aristotle, to be in their nature *impersonal.* They are considered by metaphysicians to act independently of the knowledge acquired by experience, and are designated by Sir W. Hamilton and other authorities as native mental cognitions and primary conditions of intelligence. This constitutes what the same authority terms the "regulative" or "legislative" faculty, and is said to correspond with the Aristotelian phrases Νοῦς—νοῦς (*intellectus, mens*), as well as the term "reason," as used by the early English philosophers, and *vernunft,* as adopted by Kant, Jacobi, and other German metaphysicians. The regulative faculty

is analogous in its effects to that subtle principle or force, evolved in the cerebellum, which establishes a unity of action in, and adjusts, harmonises, and co-ordinates the varied muscular movements of the body. There is a *psychical* as well as a *physical* chorea, or St Vitus' dance, in which the patient is not under the influence of any fixed or transient delusion. In these cases the insanity appears to depend upon a *disordered state of the psychical co-ordinating power* (originating, in all probability, in the *cerebrum*), and paralysis of what may be designated the *executive*, or, to adopt the phraseology of Sir William Hamilton, "regulative" and "legislative" faculties of the mind.

The patients so affected deal in the most inexplicably absurd combinations of ideas. Filthy ejaculations, horrible oaths, blasphemous expressions, wild denunciations of hatred, revenge, and contempt, allusions the most obscene, are often incongruously intermingled with the most exalted sentiments of love, affection, virtue, purity, and religion. United to the impassioned, fervent, and pious appeals to the Deity, clothed in appropriate, eloquent, and unexceptionable language, are phrases of a truly diabolical character, and frantic imprecations that cannot be listened to without exciting a feeling allied to terror in the minds of those whose painful duty it is to observe such sad exhibitions of poor, fallen, and degraded humanity. I have known patients, whilst suffering from this *choreic* type of insanity, alternately to spit, coax, bite, caress, beat, kiss, vilify, and praise those near them; and to utter one moment sentiments that would do honour to the most orthodox of divines, and immediately afterwards use language only expected to proceed from the mouths of the most depraved of beings! This phase of mental alienation is often seen unassociated with any manifested form of delusion, hallucination, or illusion. It is generally

(in women) connected with some obscure irritation and disease of the uterine system.

Without attempting to elaborate a special theory of insanity, I would direct attention, *en passant*, to the close resemblance that obtains between many forms of mental alienation, and the state of the brain and mind during the conditions of sleep and dreaming.

How accurately does Sir W. Hamilton describe the transition state of the mind intermediate between sleeping and waking, and how closely does it correspond with the operations of the intellect during the incubation of insanity, when the mind, losing its sane consciousness of objects, approaches the confines of mental alienation. When roused from this mental condition, we find, says Sir W. Hamilton, "ourselves conscious of being in the commencement of a dream; the mind is occupied with a train of thought, and this train we are still able to follow out to a point when it connects itself with certain actual perceptions. We can still trace imagination to sense, and show how, departing from the last sensible impressions of real objects, the fancy proceeds in its work of distorting, falsifying, and perplexing these in order to construct out of their ruins its own grotesque edifices."

In dreaming, as in certain forms of disordered mind, phases of intellectual vigour and states of mental acuteness are developed which were not normal manifestations during the waking hours, and did not exist in conditions of healthy thought. The most exquisite creations of the poetic fancy have been engendered under these circumstances, and conceptions suggested to the dreamy consciousness which have paved the road to fame and fortune. During the hours of sleep the intellect has, with rapid facility, solved subtle questions which puzzled and perplexed the mind when in full and unfettered exercise of its waking faculties

Difficult mathematical problems, knotty and disputed questions in the science of morals, abstruse points of philosophy, have (according to accredited testimony) found their right solution during the solemn darkness of night and periods of profound sleep. "Strictly speaking, however," says Rosenkrantz, "intellectual problems are not solved in dreams, because intense thought is without images, whereas dreaming is a creation of images. I perfectly recollect having dreamt of such problems, and, being happy in their solution, endeavoured to retain them in my memory. I succeeded, but on awaking discovered that they were quite unmeaning, and could only have imposed upon a sleeping imagination."

Insanity is said to be a waking dream, with this difference—the madman's conduct (as a general principle) is in correspondence with the delirious suggestions of his disordered, unbridled, and uncontrolled fancy. If every person were to carry, says Cicero, practically into operation the ideas that enter the mind during the act of dreaming it would be necessary, before going to sleep, mechanically to restrain all power of motion. "*Majores enim quam ulli insani efficerent motus somniantes.*"*

"If," remarks Pascal, "we dreamt every night the same things, it would perhaps affect us as powerfully as the objects which we perceive every day. And if an artisan were certain of dreaming every night for twelve hours that he was a king, I am convinced that he would be almost as happy as a king who dreamt for twelve hours that he was an artisan. If we dreamt every night that we were pursued by enemies, and harassed by horrible phantoms, we should suffer almost as much as if that were true, and we should stand in as great dread of sleep as we should of waking had we real cause to apprehend these misfortunes.

* "De Divinatione," 59.

It is only because dreams are different and inconsistent that we can say when we awake that we have dreamt, for life is a dream a little less inconsistent."*

Sir Isaac Newton is alleged to have solved a subtle mathematical problem whilst sleeping; Condorcet recognised in his dreams the final steps in a difficult calculation which had puzzled him during the day; and Condillac says that when engaged in his "Cours d'Etude," he frequently developed and finished a subject in his dreams which he had broken off before retiring to rest.

Coleridge's poetical fragment, "Kubla Khan," was composed during sleep which had come upon him whilst reading the passages in Purchas's "Pilgrimage," on which the poetical description was founded, and was written down immediately on awaking; "the image (says Dr Carpenter) rising up before him as things with a parallel production of the correspondent expressions without any sensation or consciousness of effort."†

* "Lectures on Metaphysics," by Sir W. Hamilton.

† "When Dr Gregory, in his dreams, composed thoughts, and clothed them in words which were so just in point of reasoning, and so good in point of language, that he used them in his lectures and in his written lucubrations,—when Henry Mackenzie composed a parody on the witty epigram of Piron, and satirised a learned society and certain individuals in Edinburgh,—when Cordorcet had presented to him in his dreams the final steps of a difficult calculation which had puzzled him during the day,—when Franklin discovered in his sleep the bearings and issue of political events which had baffled his sagacity when awake,—and when Coleridge composed that exquisitely melodious piece of versification which he calls a 'psychological curiosity,'—it is not easy to admit that operations so purely intellectual had their origin in abdominal or external uneasiness.

"That the mental operations have not always this character during sleep arises from the connexion of the mind with the body, and from the necessity of all its functions being performed through the organs of sense. The mind cannot retransmit along the nerves of these organs any impressions but those which have been previously transmitted through the same nerves to the brain; and when it is exercising its highest powers

In states of imperfect sleep—conditions existing midway between wakefulness and profound cerebral and psychical repose—the will does not appear altogether to be suspended in its operations. DUGALD STEWART has commented upon this fact. He observes, when referring to the phenomenon—"It may be proper to remark that if the suspension of our voluntary operations in sleep is admitted as a fact, there are only two suppositions which can be formed concerning its cause. The one is, that the power of volition is suspended; the other, that the will loses its influence over those faculties of the mind and those members of the body which, during our waking hours, are subject to its authority. If it can be shown that the former supposition is not agreeable to fact, the truth of the latter seems to follow as a necessary consequence.

"That the power of volition is not suspended during sleep appears from the efforts which we are conscious of making while in that situation. We dream, for example, that we are in danger, and we call out for assistance. The attempt, indeed, is in general unsuccessful, and the sounds which we emit are feeble and indistinct; but this only confirms, or rather is a necessary consequence of, the supposition, that in sleep the connexion between the will and our voluntary operations is disturbed or interrupted. The continuance of the power of volition is demonstrated by the effect, however ineffectual."*

In dreaming, the mind is occupied with the incongruous conceptions and fantastic combinations of images, characteristic of many conditions of disordered intellect. There

during sleep, its combinations and its reasonings may be interrupted or destroyed, or rendered ridiculous, by their admixture with other impressions produced by corporeal excitement."—*Quarterly Review.*

* "Elements of the Philosophy of the Human Mind," by Dugald Stewart.

is, as in the insane, an incoherence of ideas, one conception following another, and this succeeded rapidly by a *series* of mental impressions in opposition to all the acknowledged laws governing associated thought. Associated with this condition of the mind we find a partial paralysis of the will over subjective phenomena, this faculty exercising no healthy controlling influence upon the train of suggested ideas.

In the act of dreaming the most trivial circumstances give a decided character and direction to the current of thought. The application of a bottle of hot water to the feet of a person while sleeping has given origin to the impression that he was walking on the crater of a volcano; and upon a blister being applied to the head, it suggested to the person an idea that he was being scalped by Indians. Any sudden noise occurring in the immediate neighbourhood or within hearing of the dreamer, will in many cases originate in the mind an idea of being exposed to the crushing effect of a terrible avalanche, or suggest the notion that he is wandering over some dreary moor during a fearful hurricane. In many instances in a dream that has not continued beyond a minute, or even a second, the events of a long and chequered life have in their minutest relation occurred to the mind, and in the smallest appreciable period of time an eventful history, full of remarkable incidents, has in the imagination of the dreamer been elaborated.

The rapidity of mental action occurring in dreams, where events, which in their actual development would occupy hours, days, nay, even years, are compressed and comprehended sometimes in a few minutes, or even seconds, is finely illustrated in the dream of Count Lavalette. "One night," he says, "while I was asleep, the clock of the Palais de Justice struck twelve, and awoke me. I heard the gate

open to relieve the sentry, but I fell asleep again immediately. In this sleep I dreamed that I was standing in the Rue St Honoré, at the corner of the Rue de l'Echelle. A melancholy darkness spread around; all was still. Nevertheless, a low and uncertain sound soon arose. All of a sudden I perceived at the bottom of the street, and advancing towards me, a troop of cavalry—the men and horses, however, all flayed. The men held torches in their hands, the flames of which illuminated faces without skin, and with bloody muscles. Their hollow eyes rolled in their large sockets, their mouths open from ear to ear, and helmets of hanging flesh covered their hideous heads. The horses dragged along their own skins in the kennels, which overflowed with blood on both sides. Pale and dishevelled women appeared and disappeared alternately at the windows in dismal silence; low, inarticulate groans filled the air, and I remained in the street alone, petrified with horror, and deprived of strength sufficient to seek my safety in flight. This horrible troop continued passing in full gallop, and casting frightful looks on me. Their march, I thought, continued for five hours, and they were followed by an immense number of artillery waggons full of bleeding corpses, whose limbs still quivered. A disgusting smell of blood and bitumen almost choked me. At length the iron gate of the prison shutting with great force awoke me again. I made my repeater strike; it was little more than midnight, so that the horrible phantasmagoria had lasted no longer than *ten minutes*—that is to say, the time necessary for relieving the sentry and shutting the gate. The cold was severe, and the watch-word short. The next day the turnkey confirmed my calculations. I, nevertheless, do not remember one single event in my life the duration of which I have been able more exactly to calculate."

How closely do these phenomena resemble the automatic operations of the intellect observed in insanity? In the latter condition, the rapidity of, as well as the loss of, volitional power over certain trains of thought, are significant and characteristic symptoms. How distressing is the lesion of the *will*,—painful the insane uncontrollable *impulses*,—agonising the madness of the *emotions*, aberration of the *ideas*, exaltation and perversion of the *passions*. The melancholy sound of the wind whistling among the trees or through the lattice of the window has originated in an insane mind the idea of the boisterous and wild revellings of infernal spirits, or wailing anguish and bitter tortures of lost souls in hell.* The sound of thunder has been suggestive to the actively morbid imagination of the descent of a fearful avalanche, or of that awful crisis in the world's history when, to use the sublime language of Scripture, "The Heavens shall pass away with a great noise, and the elements shall melt with fervent heat, the earth also, and the works that are therein, shall be burned up."

Again, how often all idea of *duration* appears to be ob-

* A person became insane after listening to a sermon in which an itinerant preacher thundered forth, in forcible Saxon phraseology, the fearful terrors of the law, drawing at the same time a terrible picture of the physical sufferings of the lost souls in hell. The patient during his ravings imagined that he was enveloped in fire and brimstone. On a dreary winter's night he was found squatting in the chimney-corner. As the wind howled over a neighbouring heath, he vociferously exclaimed to those near him, "Hark! there is the devil coming in his chariot to fetch me! Don't you hear his horses neigh?"

The military were in the habit many years back of performing their various evolutions in the immediate neighbourhood of the *Salpêtrière* Lunatic Asylum, Paris. A female patient in one of the wards heard the repeated discharge ef musketry. She immediately began with great eagerness to tear up her linen into bandages. Upon being asked for what purpose she was destroying her clothes, she replied, "I am preparing bandages for the poor wounded soldiers." The lunatic believed that she was the queen, and that her right to the throne was about to be established by a battle which was being fought near the hospital.

literated from the mind of the insane during the continuance of the disease, the patient appearing, after many months, and sometimes years, of sad illness and distressing social isolation, to awaken as it were out of a fanciful and troubled dream, the healthy ideas that had occupied the mind a short period previously to the accession of the insanity, suggesting themselves to the consciousness (with all the freshness, vividness, and force of recently-received sane impressions) contemporaneously with the restoration of reason to its healthy supremacy.

In dreaming, as well as in some forms of mental aberration, the mind has occasionally a clear apprehension of its morbidly automatic condition. A person whilst under the influence of a series of fanciful occurrences created by dreaming or insanity, will occasionally acutely reason with himself as to the reality of the images occupying the attention, and be fully conscious that he is insane or dreaming.*

In cases of fully-developed insanity the mind has occasional gleams of healthy thought and sane consciousness, during which conditions (in accordance with the confession of patients) the lunatic fully recognises the disordered state of his ideas, abnormal condition of the emotions and instincts, and makes a repeated effort to crush or dissipate the predominant morbid impression. These lucid moments and transitorily-sane conditions of intellect are, however, evanescent in character, and appear like a flash of lightning across the dark and troubled mind.

In chronic as well as acute insanity, the reason has been known *suddenly* to be restored to its rightful sovereignty,

* Dr Johnson says—"I was often during sleep engaged in controversial discussions, and whilst recognising that my antagonist occasionally had the best of the contest, I entirely forgot that my own arguments, as well as those advanced by my opponent, were supplied by myself."

either during the course of the malady or immediately before death.

"There are few cases of mania or melancholy where the light of reason does not now and then shine between the clouds. In fevers of the mind, as well as those of the body, there occur frequent intermissions. But the mere interruption of a disorder is not to be mistaken for its cure or its ultimate conclusion. Little stress ought to be laid upon those occasional and uncertain disentanglements of intellect in which the patient is for a time only extricated from the labyrinth of his morbid hallucinations. Madmen may show, at starts, more sense than ordinary men. There is, perhaps, as much genius confined as at large; and he who should court coruscations of talent, might be as likely to meet with them in a receptacle for lunatics as in almost any other theatre of intellectual exhibition. But the flashes of wit betray too often the ruins of wisdom, and the mind which is conspicuous for the brilliancy will frequently be found deficient in the steadiness of its lustre."*

A young female domestic servant became insane, and eventually sank into a state of apparently perfect dementia. In this condition she continued many years. Late in life she had an attack of typhus fever. The physician who was in attendance upon her was surprised to observe that as the fever advanced a development of the mental powers took place. During the height of the fever, when delirium generally exists, this patient was entirely rational. She recognised, in the face of her medical attendant, the son of her old master, whom she had known so many years before, and she related many circumstances respecting his family, and others that had happened to herself in earlier days. But alas! the reign of reason was but of short

* Dr Reid's "Essays on Hypochondriasis."

duration. It came like a blaze of light across the intellectual desert, leaving in its track a hopeless state of mental obscurity. As the fever abated and her bodily health returned, dark clouds again enshrouded her mind, and she sank into her former deplorable state of idiocy, and continued so for many years, until she died.

CHAPTER IV.

CONFESSIONS OF PATIENTS AFTER RECOVERING FROM INSANITY; OR THE CONDITION OF THE MIND WHEN IN A STATE OF ABERRATION.

THE autobiography of the insane embodying a faithful record of the state of the intellect, emotions, and instincts, whilst fading into a condition of alienation, as well as an accurate account of the condition of the mind after its complete subjugation by disease, proceeding from the pens of persons who have passed through the terrible ordeal of insanity, opens a new and profoundly interesting page in the history of cerebral pathology, as well as mental philosophy.

Is it possible for patients accurately to describe their mental state during a paroxysm of insanity? Can they have any recollection of their incoherent ramblings, wild and fanciful imaginings, horrible and frightful hallucinations?

In order to thoroughly understand this subject we should bear in mind that insanity does not in every instance overthrow and alienate *all* the powers of the understanding. It is often a mixed condition, a combined state of reason and insanity. This theory does not militate against the view that I have elsewhere propounded as to what in legal phraseology is termed "partial" insanity. Adopting the language of metaphysicians, I affirm that

the mind is one and indivisible. A part of the intellect cannot be affected without, to a certain extent, influencing and modifying the whole of the operations of thought; nevertheless, there is in derangement of the mind occasional lucid moments, when the patient is conscious of his disorder, and is able to describe his sensations clearly to those about him. It occasionally occurs that after recovery those who have passed through acute attacks of insanity are able to recollect with singular clearness many things that occurred during their long and painful illness. As they, however, have frequently very confused and incorrect notions of such events, extreme caution should be exercised in admitting and acting exclusively (in courts of law) upon their evidence, particularly if it materially involves the motives and compromises the actions of others.

With a view of analysing the phenomena of morbid thought, patients have been asked to detail the actual operations of the mind during the incipient as well as advanced stages of mental disorder. In many cases it has been impossible to obtain any trustworthy representation of facts; in other instances they could not, without considerable and painful revulsion of feeling, revert, even for a single moment, to the past. In a few instances no difficulty has been encountered in persuading patients not only to talk about their past condition but to write with great minuteness an account of their sensations, mental and bodily, whilst insane.

I should commit a violation of good faith and a breach of professional confidence were I to publish some of these remarkable confessions. I may, however, revert to them in general terms. Before doing so I would briefly refer to the fallacy pervading all the poetic, dramatic, and artistic descriptions of insanity, save and excepting our own illustrious and immortal Shakespeare, whose wonder-

fully truthful delineations of the different types of disordered mind, embodied in passages of rare and matchless beauty, must ever entitle him to the distinction of holding the foremost rank among the most eminent psychologists that have conferred lustre on the annals of this or any other country.

The descriptions of insanity proceeding from the pens of novelists as well as of poets constitute unquestionably strikingly clever and graphic melo-dramatic sketches, but these poetical and theatrical portraits do not correspond with the true character of mental disease as exhibited by insane persons. In considering this subject, it should be remembered that the effect of the modern treatment of lunatics has been to alter the character of insanity. The immortal Pinel effected a great revolution in the moral treatment of the insane. Lunatic asylums no longer resemble a bastile, surrounded by high serrated walls, and protected by iron-barred windows. We are not shocked at the sight of the straw bed upon which "Poor Tom" of former days was in the habit, like a wild animal, of crouching, with little or no covering to protect him from the cold during the most inclement seasons of the year. We no longer observe the dens in which lunatics were formerly caged like ferocious beasts, or witness the iron chains with which their attenuated and palsied limbs were frequently manacled. The sense of hearing is not pained by the wild and unearthly wailings of bitter anguish, caused by the whip of the keeper as it fell unmercifully across the back of the unruly and excited patient. Pinel, and those who have followed humbly in his wake, have given the death-blow to such brutal proceedings and horrible barbarities.

Pari passu, with a liberal and enlightened recognition of the great principles of treatment which the genius of the illustrious Frenchman conceived and boldly carried into

effect, has the character of insanity been deprived of many of its most painful and repulsive features. The modern principles of moral treatment, based upon kindness, gentleness, and soothing tenderness, have very materially modified the external characteristics of insanity.

In estimating the circumstances that have led to the great improvement that has taken place in the condition of the insane in modern times, I am bound to refer, not only to the abolition in this country of the severer forms of *mechanical* restraint, but to the enlightened progress made in the *pathology* as well as treatment of insanity. Compare the opinions entertained by medical men of great distinction and of high professional eminence who flourished and ruled despotic about sixty years ago, with the enlightened views that are in the present day almost universally adopted and acted upon. I refer to the principles of treatment as enunciated by the celebrated Dr Brown (author of the "Bruonian theory" of medicine), who, for a short period, entered the arena, and contested with the illustrious Dr. Cullen the sovereignty of the medical republic. Dr Brown, when speaking of his method of curing mania, observes—"The patient should be struck with fear and terror, and driven in his state of insanity to despair! As a remedy against the great excitement of organs of voluntary motion, the labour of draught cattle should be imposed upon him, and assiduously continued. The diet should be the poorest possible, and his drink only water. In water, as cold as possible, the patient should be immersed, and kept under it, covered all over, for a long time, till he is nearly killed!"

It is evident that Dr Cullen entertained the most unenlightened views with regard to the treatment of insanity, for he says, when speaking of the management of lunatics, "In most cases it appeared to be necessary to employ a very constant impression of fear to inspire them with the awe

and dread of some particular persons; this awe and dread is therefore, by one means or other, to be acquired; sometimes it may be necessary to acquire it by STRIPES and BLOWS." * It is clear that these notions were at that time generally prevalent, for I find in *Burn*† the following passage:—"Any person may justify confining and beating his friend *being mad*, in such manner as is proper in such circumstances." But COLLINS‡ ventures to expound much more monstrous views in regard to the insane than the three authorities previously mentioned, for he asserts that "furious madmen may be legally *despatched* by private men!" Whilst contemplating such barbarous and inhuman principles, we are not astonished to hear the solemn protest which the illustrious Lord Erskine, when Lord Chancellor, deemed it necessary to make in behalf of the insane. "I consider," says this renowned judge, "the various trusts with which I am invested, in a manner, as nothing when compared with the *sacred duty* of protecting those who are visited with mania: it is as much a disease as any other with which it pleases God to afflict mankind, and I am sure it is always exasperated in its symptoms, and frequently rendered incurable, by *unkind* and *rigorous* treatment."

How different are the modern views with regard to the medical and moral treatment of insanity. To these humanising and enlightened principles (so successful in the cure of the malady) we may undoubtedly in a measure trace the great alteration that has happily been effected in the features of the disease. Kind, gentle, considerate, and affectionate measures have disarmed insanity of many of its repulsive and ferocious characteristics.

* Dr Cullen's "First Lines." † Burn's "Justice," vol. iii. p. 311.
‡ "Essay on Human Liberty," p. 64.

CHAPTER V.

STATE OF THE MIND WHEN RECOVERING FROM AN ATTACK OF INSANITY.

How deeply interesting are the descriptions sometimes given by the insane of their state of mind when passing out of a deranged into a sane condition of intellect. In some cases the reason is restored suddenly to its sovereignty. In many cases, however, the mind appears gradually and almost imperceptibly to awaken as it were out of a fantastic and fairy-like dream into a state of healthy consciousness. The patient feels, when recovering, that the delusions are gradually losing their hold upon the fancy. Doubts are entertained as to their reality. He is disposed to listen quietly to the judicious advice of his physician. He is no longer irritated at being told that the perceptions are false, and he begins to appreciate the absurdities of other lunatics associated with him. The dark clouds that had so long obscured, enshrouded, and embittered the mind are thus gradually dissipated, and the bright sun of reason sheds its joyous and effulgent light upon the hitherto darkened and bewildered understanding. As the patient progresses towards recovery, his mental perceptions become daily more clear and intelligible. Whilst in this transition state of morbid thought he is forcibly reminded of Milton's majestically poetical and profoundly philosophical passage,

in which he makes Adam relate to the angel what passed in his mind immediately after awakening into life:—

> "Whilst thus I call'd and stray'd I knew not whither,
> From where I first drew air and first beheld
> This happy light, when answer none return'd,
> On a green shady bank, profuse of flowers,
> Pensive I sat me down; there gentle sleep
> First found me, and with soft oppression seiz'd
> My droused sense; untroubled, though I thought
> I then was passing to my former state
> Insensible, and forthwith to dissolve."
>
> *Paradise Lost*, b. 8. l. 283.

I have, in the Appendix, referred in detail to the deeply interesting history which has been published of the Rev. Mr Walford's state of morbid religious despondency, as described by himself after his recovery. It will not be out of place here to put upon record Mr Walford's account of his gradual restoration to mental health. He says:—

"The blissful recovery which I experienced was not to be ascribed to any medical process whatever. I had, indeed, much against my own inclination, been so importuned by my friends as to consent, three or four years before my recovery took place, to consult one or two medical advisers; but the effect proved, as I fully expected, that nothing was to be hoped for from this expedient, and I positively refused to see any other medical persons. About the same time I was over-persuaded, on account of my general inability to sleep, to keep laudanum by my bedside, and to have recourse to it when sleep was found to be impracticable. I tried this measure two or three times without any sensible effect, and firmly resolved to take no more. I adhered to my purpose, and no other experiments of the kind were ever adopted. A few months before any symptoms of improvement appeared, I now and then prevailed on myself to walk up and down a few hundred yards in the road

adjacent to my house, when I was concealed by the darkness of the night from the notice of any one who might pass me. Soon after I went several evenings, when the light of day had departed, into my garden, and paced up and down for some time. On these occasions I sometimes felt an impulse, during my walks, to pray with deep fervency that some measure of relief might be afforded to me. These prayers were short and broken, yet I trust they found acceptance in heaven.

"Some weeks or months after these occurences an old friend from Suffolk, a most worthy minister, came to see me, and stayed a day or two. I had formerly smoked many a pipe of tobacco in company with my friend, though for the preceding five years I could not bear the sight of a pipe. My wife, aware of his habits, had the materials for smoking set before him, which he employed, and earnestly pressed me to accompany him, which I passionately refused to do. On the evening of his departure, when, as usual, I was the only person sitting up, it occurred to me to try if I could smoke, which, for four or five years, I had discontinued, on account of the manifest bad effects it produced on my pulse. I instantly procured for myself the smoking apparatus, and found I could perform the operation without the injurious results which had induced me to relinquish the practice. Soon after this experiment I resolved to try if I could read, though I was under a great difficulty to select a book that did not seem likely to awaken painful associations; and I especially shunned all such as treated of religious subjects. Accident determined my choice. I had not relinquished a book society of which I was a member, though the books that came to my house were carefully concealed from my notice. At the time of which I am now writing I found that a 'History of the Cotton Manufacture,' by Mr Baines,

was brought to my house; and as it seemed not very likely that anything in it would excite my feelings, I resolved, though with extreme apprehension, to try this book. In a day or two I found nothing in it that much distressed me, and I perused it to its close. It amused me, and after reading it again, I wrote out a pretty extensive abridgment of it. I then attempted a work by Mr Babbage, the title of which is, I think, 'The Economy of Manufactures.'

"After reading and epitomising these works, I was so much quieted as to regret I had no others of similar character; and I then engaged in writing a translation of the history of Herodotus. Before I had completed my translation of the first book of that history, the spring brought the month of May. My son entreated his mother to take a ride in a carriage with him, and I joined in the entreaty, as I greatly wished she should enjoy some refreshment of this kind. The carriage was brought to the door, when my faithful wife positively refused to go unless I would accompany them. This I both thought and said was impossible. She, however, persisted in her refusal; and for some time I warmly remonstrated with her, and urged her going. While I was thus engaged, a sudden inquiry offered itself to me. Why could I not go? I could discover no reason, and calllng for my hat, I jumped into the carriage, when I directed the driver to take us to Epping Forest, through Wanstead and Woodford,—a ride which in former years I had often taken with great pleasure. The verdure of the grass, trees, and country in general, with the fineness of the weather, so affected me, that all my fears, disquietudes, and sorrows vanished as if by a miracle, and I was well, entirely relieved, and filled with a transport of delight such as I had never before experienced. My hope and confidence in God were restored, and all my dreary expectations of

destroying myself or others were entirely forgotten. On my return home from this reviving excursion, every desire to shut myself up and exclude my friends was departed, and I could with difficulty restrain myself from being always abroad.

"This extraordinary change of feeling took place, as I have said, in May; and, on the first day of the following August, I set out, in company with my son and an active friend, who had before travelled on the Continent, for France, Switzerland, and Germany. The delights of that journey were so enhanced by contrast with the events of the five preceding years, that I was in a species of rapture throughout the whole. I felt no apprehensions of danger in going so far from home, and the glorious scenes I witnessed so enchanted me that my pleasure overflowed the limits of ordinary enjoyment. One only regret was occasioned by the unavoidable necessity under which my companions in travel were placed of returning at the end of the month to business, by which I was hurried from scenes of surpassing grandeur and interest before I had half-gratified myself with gazing upon them. Enchanted and fascinated as I was with this tour, I attribute no part of my recovery to it, as I had been entirely free from my sad condition, both of body and mind, before it took place; if this had not been the case, no wishes of my own, nor any entreaties of my friends, would have had power to persuade me to set out upon it, so deeply was I affected by the remembrance of former disappointments. Immediately after my return I was seized with a most unexpected and severe diarrhœa, which I thought would terminate my joys and sorrows alike; it yielded, however, to skilful medical treatment after some days, and one of my medical attendants, who had been long acquainted with my constitution, assured me, when the vehemence of the paroxysms was

abated, that the effects of it were far more beneficial than any medical treatment could have produced, and he anticipated a perfect freedom from the return of my distressing nervous disease. This anticipation has been verified by several successive years of established health; and though I am now occasionally in some measure disturbed by some of the minor symptoms of my disorder for short periods, chiefly during the hours of night, my general health is remarkable for my years, and the condition of my feelings tranquil and cheerful, though seldom much elevated."*

* "Autobiography of the Rev. William Walford." Edited by the Rev. John Stoughton (of Kensington). For further illustrations on this subject see the Appendix.

CHAPTER VI.

ANOMALOUS AND MASKED AFFECTIONS OF THE MIND.

BEFORE analysing the various stages of incipient insanity previously referred to, I propose to consider briefly certain anomalous and unobserved, because *masked*, conditions of brain disease and mental disorder. I would, however, premise that in the majority of these cases it is difficult to trace to its origin the first inroads and dawnings of morbid and insane perceptions, to demonstrate when the boundary-line between healthy and insane idea has been traversed, at what precise period certain normal states of eccentricity of *thought*, singularity and oddity of *conduct*, have passed into actual alienation of mind. Unfortunately, there is no psychical test to which we can with safety and satisfaction judicially and psychologically appeal when difficult, doubtful, obscure, and subtle conditions of suspected derangement of intellect are submitted to us for medical, metaphysical, and legal analysis. Each case must be examined by *and in relation to itself*, and not in reference to any preconceived definition or *à priori* hypothesis of insanity.* The vain attempt to frame a

* When speaking of the degrees of departure from presupposed conditions of health either of body or mind, perhaps the term *latitude* would be a more philosophically correct expression than the phrase *standard*, now commonly adopted. How imperceptible and shadowy are the gradual transitions from a state of health to one of disease. Who can

definition of this disease, will in a measure account for the great difference of opinion, as well as unhappy conflict of testimony exhibited in courts of law by medical men supposed to be conversant with the phenomena of disordered mind.

Before enumerating the symptoms characteristic of the commencement of insanity, I would premise that mental disorder often first manifests itself in a significant manner at an early period of life. Decided paroxysms of insanity have occurred in young children when at school, and in persons more advanced in age whilst at college, and then all traces of the transient attack have passed, like a dark cloud, entirely away. Several remarkable cases of this kind have come under my observation. In one singular instance, a young gentleman, whilst studying for university honours, had an attack of insanity. He was sitting up late at night, busily occupied in reading, when he was suddenly seized with an impulse to destroy everything within his reach. He first broke the lamp on the table, then a pier-glass. He subsequently tore up and destroyed a number of books, and did great injury to several articles of value in the room. He left home about three o'clock in the morning and came back at eight, covered with filth, *apparently in full possesssion of his senses.* He refused to give any explanation of his conduct, or to say where he had been.

accurately define their characteristics? We are able, however, to appreciate when there is any positive deviation on either side of the line. In the case of colours it has been well remarked "that we know blue and red perfectly well, but they may be blended together in an infinite variety in forming a purple colour, and it may be impossible to say where the red and where the blue prevails. Yet this does not deprive us of the power of forming a very distinct conception of both colours apart from each other." The experienced physician is able to appreciate when the boundary-line between reason and insanity has been traversed, although he is not competent to frame a definition that can be referred to as an unerring test in all doubtful cases of mental disorder.

When pressed upon the subject he became irritable, sullen, and morose. This gentleman continued mentally well for *twelve* years, when insanity again developed itself, and he has remained from that period in a deranged state of mind. A patient, now insane, manifested at the age of *ten* decided symptoms of mental aberration, and to such an extent that occasionally for days it was deemed necessary to confine mechanically his hands, so mischievous were the child's tendencies. At the age of fifteen he, appearing like other boys, was sent to a public school, and it was not until he was *thirty* that his insanity again manifested itself, when it was considered necessary to place him under restraint.

When referring to the possibility of insanity commencing at a very early age, then becoming arrested, and even remaining dormant for *five, ten, twelve,* and *twenty* years, Esquirol remarks—"I am more than ever convinced that the existing causes of insanity do not act abruptly except when the patients are predisposed. Almost all the insane exhibit, before their disease, some alterations in their functions—alterations which commenced many years previously, and even in infancy. The greater part had had convulsions, cephalalgia, colics, or cramps, constipation, and menstrual irregularities. Several had been endowed with great activity in the mental faculties, and had been the sport of vehement, impetuous, and angry passions. Others had been fantastical in their ideas, their affections, and passions; some had had an extravagant imagination, and been incapable of continuous study; others, excessively obstinate, could not live except in a very narrow circle of ideas and affections; whilst many, void of moral energy, had been timid, fearful, irresolute, indifferent to everything. With these dispositions, a mere accidental cause is sufficient to make the insanity break out."*

* "Dictionnaire des Sciences Médicales." T. 16, p. 195.

M. Pinel was acquainted with a case of insanity that had been going on unnoticed for a period of *fifteen* years. In several other cases the maniacal and melancholy state had begun *four, six, ten, fifteen,* and *twenty* years previously. It is often easy to go back months or years in this way, and we finish by discovering that circumstances, taken for causes by the friends, are frequently only the consequences of unobserved disease. It does not, however, necessarily follow that when symptoms of insanity appear in early life, the disease will recur at a subsequent period. Children, as well as adults, are subject to sudden transient attacks of temporary mental disorder, which pass entirely away, the mind retaining its healthy state for the remainder of life.

Dr Brierre de Boismont has published some remarks upon the insanity of early life, when reviewing the dissertation of Dr Paulmier on this subject. This able and accomplished physician (Dr Boismont) accounts for the comparative exemption of childhood from mental aberration, by the absence of many of the causes so potent in its production in adult life; not that children do not feel acutely, but their sensations are of a fleeting nature, and in this lies their protection. Nevertheless, children who inherit a disposition to mental disease, or who possess a highly nervous temperament, and who are exposed to favouring circumstances, occasionally manifest undoubted symptoms of the malady. Haslam, Perfect, Franck, Burrows, and Spurzheim have recorded cases of insanity occurring in children under eleven years of age. Greeding gives an account of a child of eighteen months who died of marasmus. She was taken into the asylum at Wuldham with her mother (who was insane). The child was then scarcely nine months old. She was subject to paroxysmal nervous attacks, which ended either in an indescribable laugh or in a fit of mania, during which the

little creature tore everything she could lay hands upon. Jacobi refers to several cases of insanity in children, then in the asylum at Siegburg. Esquirol treated two children, one of eight and another of nine years, and a girl of fourteen, all labouring under attacks of mania; he was also consulted about a child of eleven, in whom the disease assumed the form of melancholia.

Marc gives an account of a little girl of eight, who freely admitted that she wished to kill her own mother, grandmother, and father. Her object was to be possessed of their property, and to have an opportunity of indulging her passions. The child was morose, pale, and silent, and when spoken to, her answers were very abrupt. Her health was improved by a residence in the country, but on being brought back to town, she became again pale and melancholy. For a long time the cause remained undiscovered; at length it was found that she was addicted to bad habits, which she openly avowed, regretting at the same time that she had not the opportunity of indulging her animal passions. Dr Brierre de Boismont noted four cases of children of six, seven, and ten years of age, in whom the symptoms of mental disease were manifest; and he had under his care a female child of three and a half years old, born of a paralytic father, which showed the strangest caprices; at one time sad and melancholy; again in the most violent fits of rage, without any cause, and not to be appeased. The intelligence of the child was far beyond its years. The cases of insanity brought under notice by Dr Paulmier cannot be said to belong to childhood: his children are young people; for of thirteen examples three are fourteen, two fifteen, three sixteen, and five seventeen years of age. Before, however, analysing Dr Paulmier's work, Dr Brierre de Boismont turns to English, French, and American authors for information on the subject. In a table of

21,333 cases of insanity there are recorded eight cases under ten years, and 1161 cases are noted occurring between the ages of ten and twenty. The greatest number of cases of insanity occurs between thirty and forty. In the United States, however, physicians have remarked that the disposition to mental disease is stronger between twenty and thirty than between thirty and forty; and this is fairly ascribed to the earlier age at which young men enter the world and engage in business and politics. One of these beardless men of business said to his physician, "I am convinced this kind of life which I lead will drive me mad or kill me; but I must go on." In four American asylums, which contained 2790 patients, 33·73 per cent. were between twenty and thirty, and 24·41 per cent. between thirty and forty years of age. That the kind of education which the youth in the United States receive has a powerful influence on the development of insanity is proved by Evans and Worthington in their reports of the Pennsylvania asylums. Dr Wigan gives, in his unpublished writings, an account of crimes committed by young people without any object. The age of the youthful malefactors was between sixteen and seventeen for girls, and between seventeen and eighteen for boys. There was this in common, that there had not previously existed the slightest animosity towards the persons against whom they perpetrated outrages. According to Wigan, the great number of these young people had epistaxis, which, among the females, appeared with the regularity of menstruation. The crimes were generally committed after the temporary cessation of this habitual flux.*

The statistics of Dr Boutteville exhibit insanity amongst children in no insignificant proportion. The maximum is presented between the ages of thirty and thirty-four.

* "Psychological Journal," vol. xi. p. 497.

From five to nine, 0·9 per cent.; ten to fourteen, 3·5; from fifteen to nineteen, 20 per cent. Drs Aubanel and Thorpe observed in the Bicêtre, in the year 1839, eight cases of mania in children and one of melancholia, from the age of eleven to eighteen years, The diagnosis of the mania of children is at times difficult; meningitis may be confounded with it; but in general the headache, the dilatation of the pupils, and the nausea and repeated vomiting, afford means of fixing the line of demarcation. Mania with stupor (*d'une sorte du stupeur exaltique*) approaches closely certain forms of mental alienation which occur after epileptic seizures, and in which the excitement is associated with obtuseness and hallucinations (*obtusion hallucinatoire*).

Out of forty-two young persons in whom the mental disease commenced between fourteen and sixteen years of age, eighteen inherited the affection from their parents; and in by far the greater number of these cases the disease manifested itself contemporaneously with the age of puberty and menstruation. On inquiring of the parents the character of the children, the answer has almost always been that they were, without any cause, sometimes sad, and at other times wild and ungovernable. They could never apply themselves steadily to work. They had no talent, or, if it existed, it only flared up brilliantly for a moment. They would submit themselves to no rules. Some were apathetic, and not to be excited by emulation. Others exhibited a volatility that could not be restrained. Many had been subject to spasmodic attacks. The incubation period was often protracted. In eighteen instances recovery took place, but the persons were liable to relapse; and the conclusion is, that though in a certain number of cases recovery takes place, the mental alienation of children and young people is a most serious disease, partly

from their antecedents, and partly on account of the imperfect development of the cerebral and other organs.*

At the commencement of insanity the derangement of the intellect may be so slight and transient as to render its recognition, as a formidable impending malady, a task of grave doubt and great difficulty, especially in the cases of children. To the unskilled, untutored, and untrained eye the disease is, in its early stages, occasionally altogether invisible. Even to the practised apprehension of the experienced physician it is almost indiscernible, or at least of a dubious and uncertain character.

In its incipient stage, mental disorder is characterised generally by acute morbid sensibility, physical and mental, accompanied by a difficulty of fixing and concentrating the attention. Often the patient complains of being very ill, and exclaims that he is losing his senses, pertinaciously asserting that his mind is not his own.

On investigating the history of the insane, it will sometimes be discovered that long before any mental disease is apparent, they were subject to fits of apathy, had been in the habit of sitting for hours together in a state of moody abstraction or brown study, and this too at a time when they had important domestic and other duties to occupy their attention.

Upon analysing the patient's antecedents still more closely, it will perhaps also be found that for a long period there has existed much irregularity and absurdity of thought, eccentricity, and singularity of conduct. He has been considered as an oddity in his family, being rarely seen in the domestic circle. When his friends and relations are engaged in social union and converse, he retires quietly to his own room, where he is discovered ab-

* Dr Brierre de Boismont, in the "Psychological Journal," No. XIII. (New Series.)

stracted, brooding, and muttering nonsense to himself. At other times he is forward and obstreperous, loud and vociferous, wild, ungovernable, and untrainable. On these occasions the eyes exhibit a bright, brilliant aspect, and the physiognomy is lighted up by an unnatural degree of intelligence. At other times the patient is restless, abstracted, and moody during the day, and at night slumbers and sleeps uneasily, often when awaking complaining of headache, mental confusion, or vertigo. During his sleep he is occasionally subject to slight attacks of muscular twitching, somnambulism, temporary illusions of the senses, and is liable to frightful and distressing dreams. All these symptoms are often indicative of the commencement of disorder of the brain, as well as of alienation of mind.

In the early period of insanity, the most material elements of character undergo strange transformations. A person naturally remarkable for his caution and circumspection becomes reckless, extravagant, and imprudent; if previously orderly and economical, he is confused and prodigal; if noted for his preciseness, he exhibits great carelessness and negligence; if gay and communicative, he is sullen and morose; if formerly neat and particular in his dress, he becomes slovenly, dirty, and indifferent as to his attire; if timid, he is brave, resolute, overbearing, and presumptuous; if kind, gentle, and affectionate, he is rude, austere, irritable, and insulting in his intercourse and communications with others; if benevolent, he becomes parsimonious and miserly, hoarding up with the greatest care the smallest sums of money, sometimes under the insane impression that he will eventually be obliged to go into the workhouse. If, when in health, the patient is known for his attention to his religious duties, he is, when insanity is casting its dark shadow over his mind, sadly neglectful of them, not

paying even decent respect to the ordinances of religion. The man of business who never, when well, was found absent from his counting-house, or known to neglect his vocation, now shows great indifference as to his affairs, and refuses to take any part in, or even to converse about them.

Insanity often first manifests itself in a morbid *exaggeration*, a diseased *excess*, of normal healthy mental conditions. The naturally timid and reserved man shuns society, isolating himself altogether from the companionship of his family and friends; the bold man is boisterous, noisy, presuming; the courageous, officious and talkative; the strictly upright person exhibits an unhealthy exaltation of conscience respecting his moral, social, and religious duties, and when insane, or becoming so, will manifest the acutest misery at the notion of thinking or doing anything in the remotest degree at variance with his distorted interpretation of Holy Writ. In this condition of mind the patient, suffering from *pseudo*-religious feelings, will refuse to comply with any instructions that are opposed to his own morbidly-conscientious and sadly-perverted notions of right and wrong, good and evil. The naturally cautious and suspicious man manifests an excess of these mental qualities when in an abnormal state of mind. He will weigh with scrupulous exactness, cautious prudence, and watchful vigilance everything that is said and done, surmised and hinted at, in his presence, hesitating and doubting as to the tendency, truth, and sincerity of all remarks addressed to him.

In a more advanced stage of this type of morbid thought, the patient often has delusions as to his food being poisoned, refusing for a time all sustenance, and occasionally resisting (as I have heard patients confess after recovery) the efforts made to induce them to eat at a time when they were tortured and agonised by the acute cravings of hun-

ger. The naturally jealous man exhibits his insanity by suspecting his wife's affection, and even fidelity; the man of active poetic imagination manifests in his disease a disposition to indulge in the most wild and fantastic excursions into the regions of fancy, often in his paroxysms of morbidly-excited imagination seeing

"More devils than vast hell can hold."

"In investigating," says an acute observer, "the nature of insanity, the first caution to be observed is not to confound disorders of mental functions with natural qualities which sometimes strongly resemble them. Many men, in the full enjoyment of health, are remarkable for peculiarities of character and idiosyncrasies of thought and feeling which contrast strongly with the general tone and usages of society; but they are not on that account to be held as insane, because the singularity for which they are distinguished is with them a natural quality, and not the product of disease; and from the very unlikeliness of their manifestations to the modes of acting and of feeling of other men, such persons are, in common language, said to be eccentric. It is the prolonged departure, without an adequate external cause, from the state of feeling and mode of thinking usual to the individual when in health, that is the true feature of disorder in mind, and the degree at which this disorder ought to be held as constituting insanity is a question of another kind, on which we can scarcely hope for unanimity of sentiment and opinion. Let the disorder, however, be ascertained to be morbid in its nature, and the chief point is secured, viz., a firm basis for an accurate diagnosis; because it is impossible that such derangement can occur unless in consequence of, or in connection with, a morbid condition of the organ of mind; and thus the abstract mental states which are justly held to indicate lunacy in one may in

another, speaking relatively to health, be the strongest proofs of perfect soundness of mind. A brusque, rough manner, which is natural to one person, indicates nothing but mental health in him; but if another individual, who has always been remarkable for a deferential deportment and habitual politeness, lays these qualities suddenly aside, and, without provocation or other adequate cause, assumes the unpolished forwardness of the former, we may justly be suspicious that his mind is either already deranged or on the point of becoming so. Or if a person who has been noted all his life for prudence, steadiness, regularity, and sobriety, becomes, without any adequate change in his external situation, rash, unsettled, and dissipated in his habits, or *vice versâ*, every one recognises at once, in these changes, accompanied, as they then are, by bodily symptoms, evidences of the presence of disease affecting the mind through the instrumentality of its organs. It is therefore, I repeat, not the *abstract* act or feeling which constitutes a symptom—it is the departure from the natural and healthy character, temper, and habits, that gives it this meaning; and in judging of a man's sanity, it is consequently as essential to know what his habitual manifestations were as what his present symptoms are. Just as, in investigating stomachic affections, we do not compare the variations of appetite or the strength of digestion with any fixed or imaginary standard, but always judge of their value as symptoms in relation to their former state; because the moderate appetite which is natural to one constitution, occurring in a person who had previously been remarkable for keenness and power of digestion, would justly be considered as an indication of loss of health, while the voracious appetite natural to a third, would, in a different constitution, be as sure an index of stomachic disease.*

* Dr Andrew Combe, on "Mental Derangement," 1831.

In the ordinary practice of medicine we occasionally meet with cases of *bodily* disease at variance with past experience, and setting at defiance every attempt to embody them within the *nosological* chart. These affections are anomalous or *pseudo* in their character, are with difficulty defined, not easily diagnosed, occasionally altogether escape observation, and often resist too successfully the operation of the best directed remedial measures.

If, then, among the diseases more particularly implicating the ordinary organic functions we witness these pseudo or eccentric deviations from the recognised pathological character, *à fortiori*, are we not justified in anticipating that in the subtle, complicated, varied, and often obscure affections of the cerebral structure, deranging the operations of thought, we should have brought within the sphere of our observation extraordinary, anomalous, and eccentric deviations from certain recognised morbid, cerebral, and psychical conditions?

It is an admitted axiom that the mind may be *disordered* without being *insane*, using this phrase in its strictly legal acceptation. These conditions of morbid intellect may be considered by some as only degrees of *insanity;* but I would suggest that this term be restricted to those mental disorders, accompanied with positive loss of control, clearly justifying the exercise of moral restraint, and to those morbid conditions of the intellect which sanction an appeal to the protective influence of the law. In other words, I would confine my remarks to those cases in which the mind may be said to be *pathologically* disordered, but not *legally* insane.

Have we in practice sufficiently appreciated this distinction? Fearful of committing ourselves to an opinion that might authorise an interference with the free agency of the patient and justify legal restraint, there has existed

an indisposition to admit the presence of mental disorder, even in cases where it has been obviously and painfully apparent. This excessive caution, originating in motives that do honour to human nature, has often, I fear, been productive of serious, fatal, and irremediable mischief.

The subject under consideration is one, I readily admit, of extreme delicacy, but nevertheless of incalculable importance to all sections of the community. It is, I allow, beset with difficulties and surrounded by dangers. In the hands of the inexperienced, the ignorant, indiscreet, and wilfully designing, the facts that I have to record, and principles which I am about to enunciate, might be productive of much mischief; but I ask, ought any apprehensions of this nature to deter the physician from entering upon so philosophical an inquiry?

The subject of latent and unrecognised morbid mind is yet in its infancy. It may be said to occupy at present untrodden and almost untouched ground. What a vast field is here presented to the truth-seeking observer, who, to a practical knowledge of human nature, adds an acquaintance with the higher departments of mental and moral philosophy, as well as of cerebral pathology. How much of the bitterness, misery, and wretchedness so often witnessed in the bosom of families arises from concealed and undetected mental alienation. How often do we witness ruin, beggary, disgrace, and death, result from such unrecognised morbid mental conditions. It is the canker-worm gnawing at the vitals, and undermining the happiness of many a domestic hearth. Can nothing be done to arrest the fearful progress of this moral avalanche, and divert the course of the rapid current hurling so many to ruin and destruction?

This type of morbid mental disorder exists to a frightful extent in real life, and as it is unhappily on the increase, it

behoves the members of the medical profession, as guardians of the public health, as philosophers engaged in the loftiest and most ennobling of human inquiries, as practical physicians called upon to unravel the mysterious and complicated phenomena of disease, and administer relief to human suffering, fearlessly to grapple with an evil which is sapping the happiness of families, and to exert their utmost ability to disseminate sound principles of pathology and therapeutics upon a matter so intimately associated and so closely interwoven with the mental and social wellbeing of the human race.

These unrecognised morbid mental conditions most frequently implicate the *affections, propensities, appetites,* and *moral sense.* In many instances it may be difficult to distinguish between normal or healthy mental irregularities of thought, passion, appetite, and those deviations from natural conditions of the mind, both in its intellectual and moral manifestations, clearly bringing those affected within the legitimate domain of pathology ; yet there are unfailing diagnostic symptom, by means of which the experienced physician may detect these *pseudo* forms of mental disorder with sufficient exactness, precision, and distinctness to justify the conclusion that they result from diseased *cerebral* conditions. The phases of mind of which I speak, though obscure and unlike the ordinary cases of mental aberration of every-day occurrence, frequently manifest themselves in either an exalted, depressed, or vitiated state of the moral faculties. The disorder frequently assumes the character of a mere exaggeration of some single predominant passion, appetite, or emotion, and so often resembles in its prominent features the natural and healthy actions of thought, either in excess of development or irregularity of operation, that the practised eye of the experienced physician can alone safely pronounce the state

to be an abnormal one. I do not refer to ordinary instances of eccentricity, idiosyncrasies of thought and feeling, or to cases in which the mind appears to be absorbed by some one idea, which exercises an influence over the conduct and thoughts quite disproportionate to its intrinsic value. Neither do I advert to examples of natural irritability, violence, or passion, coarseness and brutality, vicious inclinations, criminal propensities, excessive caprice, or extravagance of conduct, for these conditions of mind may, alas! be the natural and healthy operations of the intellect. These strange phases of the understanding, *bizarreries* of character, vagaries of intellect, singularities, irregularities, and oddities of conduct common to so many who mix in every-day life, and pass current in society as healthy-minded persons, present to the moralist and philosophical psychologist many points for grave contemplation and often suspicion. Such natural and normal, although eccentric states of the intellect, do not, however, legitimately come within the province of the *physician* unless they can be clearly demonstrated to be *morbid* results, and positive and clearly-established deviations from cerebral or mental *health*.

These forms of unrecognised mental disorder are not always accompanied by any well-marked disturbance of the bodily health demanding medical attention, or any obvious departure from a normal state of thought and conduct such as to justify legal interference; neither do these affections always incapacitate the party from engaging in the ordinary business of life. There may be no appreciable morbid alienation of affection. The wit continues to dazzle, and the repartee has lost none of its brilliancy. The fancy retains its playfulness, the memory its power, the conversation its perfect coherence and rationality. The afflicted person mixes as usual in society, sits at

the head of his own table, entertains his guests, goes to the stock-exchange, the counting-house, or bank, and engages actively in his professional duties, without exhibiting evidence very conclusive to others of his actual morbid mental condition. The change may have progressed insidiously and stealthily, having slowly and almost imperceptibly induced important molecular modifications in the delicate vesicular neurine of the brain, ultimately resulting in some aberration of the ideas, alteration of the affections, or perversion of the propensities and instincts.

A man may be an unrecognised monomaniac, and, acting under the despotic influence of one predominant morbid idea, be bringing destruction upon his home and family. His feelings may be perverted and affections alienated, thus engendering much concealed misery within the sacred circle of domestic life. His conduct may be brutal to those who have the strongest claims upon his love, kindness, and forbearance, and yet his mental malady be undetected. He may recklessly, in opposition to the best counsels and most pathetic appeals, squander, in a state of unobserved insanity, a fortune which has been accumulated after many years of active industry and anxious toil. He may become a liar, be vicious, and brutal—a tyrant, criminal, drunkard, suicide, spendthrift, and debauchee, as the result of an undoubtedly unhealthy state of the brain and mind, and yet pass unobserved through life as an apparently sane, rational, and healthy man.

We witness in actual practice all the delicate shades and gradations of such unrecognised and neglected degrees of mental alienation. It often occurs that whilst those so affected are able to perform with praiseworthy propriety, scrupulous probity, and singular exactness, most of the important duties of life, they manifest extraordinary and

unreasonable antipathies, dislikes, and suspicions against their dearest relations and kindest friends. So cleverly and successfully is the mask of sanity and mental health sometimes worn—so effectually is all suspicion disarmed—that mental disorder of a dangerous character has been known for years to be stealthily advancing without exciting the slightest notion of its presence, until some sad and terrible catastrophe (homicide or suicide) has painfully awakened attention to its existence. Persons suffering from latent insanity often affect singularity of dress, gait, conversation, and phraseology. The most trifling circumstances stimulate their excitability. They are martyrs to ungovernable paroxysms of passion, are inflamed to a state of demoniacal fury by insignificant causes, and occasionally lose all sense of delicacy of feeling, sentiment, refinement of manners and conversation. Such manifestations of undetected mental disorder may be seen associated with intellectual and moral qualities of the highest order. Occasionally such patients are impulsive in their thoughts; often obstinately, unreasonably, and pertinaciously riveted to the most absurd and outrageous opinions; dogmatic in conversation; litigious, exhibiting a controversial spirit, and opposing every endeavour made to bring them within the domain of common-sense and correct principles of ratiocination. All delicacy and decency of thought are occasionally banished from the mind, so effectually does the principle of thought in these attacks succumb to the animal instincts and passions.

The naturally gentle, truthful, retiring, and self-denying become quarrelsome, cunning, and selfish; the diffident bold, the modest obscene. We frequently observe these *pseudo*-mental conditions giving undue prominence to a particular faculty, or seizing hold of one passion or appetite. Occasionally it manifests itself in a want of veracity,

or in a disposition to exaggerate and tell absurd and motiveless lies. It may show itself in disordered *volition*, morbid *imitation*, in an inordinate vaulting ambition, an absorbing lust of praise, and an insane craving for notoriety, leading to serious overt acts of crime. The disorder occasionally manifests itself in morbid views of religion, and a paralysis of the moral sense. Many of these sad afflictions are symptomatic of unobserved and consequently neglected cerebral conditions, either originating in the brain itself, or produced by sympathy with morbid affections existing in other tissues in close organic relationship with the great nervous centre.

Such cases will generally be found associated with an organic predisposition to insanity or cerebral disease. These morbid conditions occasionally succeed the febrile attacks, more or less implicating the functions of the brain and nervous system, and are often known to follow injuries of the head inflicted in early childhood. Modifications of the malady are seen allied with genius. The biographies of Cowper, Burns, Byron, Johnson, Pope, and Haydon establish that the most exalted and highly-gifted intellectual conditions do not escape unscathed. In early childhood this form of mental disturbance may in many cases be detected. To its existence is often traced the motiveless crimes of the young, as well as much of the unnatural caprice, dulness, stupidity, and wickedness often witnessed in early life at our public and private schools, as well as national universities.

A friend of Dr Cheyne was one day riding with a clergyman of refined manners, who for many years had been devoted to the service of God. To his amazement his companion, without any adequate provocation, had a paroxysm of ungovernable fury, swearing at a wood-ranger, and threatening him with vengeance, because he had been

dilatory in obeying an order which he had received relative to a matter of little importance. Had this fact become public, all the devotedness to his profession for which this excellent man was distinguished would by many have been considered as assumed, and his habitual humility of demeanour, arising from a sense of his own unworthiness, as the result of hypocrisy. It appears that this gentleman had a short time previously undertaken a duty which produced over-excitement of the brain. He was quite conscious of the incongruity of his conduct. It appears that his only brother had died in an asylum.

We occasionally, in practice, see a modified form of this disorder exhibiting itself in a bad, morose, and capricious disposition, called by the late Dr Marshall Hall "temper disease." *

Galvez, the Spanish general, was subject to attacks of violent and ungovernable passion. A bottle of claret cured him, probably, as Dr Rush suggests, by overcoming a weak, morbid cerebral action, and producing agreeable and

* "The most frequent, yet the most extraordinary, of these perversions of temper, are seen in young females. It is a species of aberration of the intellect, but short of insanity—real enough, but exaggerated—fictitious, factitious, and real at the same time. It frequently has its origin in dyspepsia, hysteria, or other maladies, and in emotion of various kinds, such as disappointment, vexation, &c. Its object is frequently to excite and maintain a state of active sympathy and attention, for which there is, as it were, a perpetual, morbid, and jealous thirst. It was rather aptly designated by the clever relative of one patient an *ego mania*. I do not regard it entirely as a *feigned* disease. It is, originally at least, the result of malady, or of some mental or bodily affection. It is allied to hysteria; and hysteria—hysteric palpitation, for example—is a real disease. It is best illustrated by the effects of derangement of the stomach and bowels in infants; and who would think of correcting a child for temper which was the immediate, natural, and inseparable effect of bodily disorder? It is a perversity, an insaniola, originating in bodily disorder or mental affection, and perpetuated by a morbid indulgence of temper and desire for sympathy and attention."—"Observations in Medicine," by Dr M. Hall. Series No. I. P. 87–89.

healthy excitement of brain. Would not, adds this physician, a dose of laudanum have been the appropriate remedy?

Dr Beddoes refers to the case of a lady who, after her recovery from an attack of brain fever, became extremely irascible. This was the reverse of her natural disposition. She made herself so offensively disagreeable to all her family, that her husband, a most amiable and self-denying man, was compelled to separate himself from her, and abandon his once happy fireside.

A lady was in the habit, during her paroxysms of passion, of seizing hold of her husband's hair and tearing it out by the roots in large quantities. He has often applied to me in great distress, having a full assurance of his wife's insanity, beseeching me to protect him from her acts of insane violence. She was clearly disordered in her mind; but during my examination of her case I could not perceive sufficient to justify me in signing a certificate authorising her being placed under control.

I have referred to a certain morbid mental condition exhibiting itself exclusively in acts of cruelty and brutality. This form of unrecognised disorder may exist unassociated with delusion. There is much of this undetected alienation of mind in existence, producing, within the sacred precincts of domestic life, great irregularities of conduct, a fearful amount of domestic discord, disunion, and misery. It often co-exists with great talents and high attainments, is compatible with the exercise of active philanthropy and benevolence, and is so concealed, that the ordinary actions or conversation of those thus affected would not in many cases lead to a suspicion of its presence. Howard the celebrated philanthropist affords an unhappy illustration of this type of disorder. He is represented to have been a tyrant in his own house. His cruel treatment caused the

death of his wife. He was in the habit for many years after her death of doing penance before her picture. He had an only son whom for the slightest offence he punished with terrible severity, making him stand for hours in a grotto in the garden. The son became a lunatic as the result of this brutal treatment.*

A lady, moving in good society, happily married, accomplished, well-educated, of sweet temper, and with a mind under religious influences, manifested at the age of forty-five a sudden and an extraordinary change of character and habits. She became irritable from trifling causes, was continually quarrelling with her husband and servants, discharged her tradesmen, accusing them of acts of dishonesty, and offended many of her most intimate friends and relations by her frigid and often repulsive manner. This state of mind continued for two years, during which period she played the capricious tyrant within the sphere of the domestic circle. Her husband became nearly broken-hearted; his friends and relations could not enter his house without being insulted; he neglected his business, and his health became, from constant anxiety, seriously impaired. A new phase of the malady, however, exhibited itself. She one day accused her husband of gross infidelity. Proofs were demanded. She immediately produced several anonymous letters which she had received, containing a minute, circumstantial, and apparently truth-

* Pinel observes—"That he who has identified anger with fury or transient madness, has expressed a truth the profundity of which I am more or less disposed to acknowledge in proportion as my experience on the subject of insanity has been more or less extensive. Paroxysms of insanity are generally no more than irascible emotions prolonged beyond their ordinary limits; and the true character of such paroxysms depends more frequently upon the various influences of the passions than upon any derangement of the ideas or upon any whimsical singularities of the judging faculty."

ful account of her husband's misconduct. These letters appeared to substantiate as conclusively as such documentary evidence could do her accusation. No person doubted the genuine character of these letters. Her friends, however, refused to recognise even at this time her morbid state of mind. She subsequently had an epileptic seizure followed by partial paralysis. I then saw the case. Her cerebral condition being at this time apparent, she was removed from home. It was now discovered beyond a doubt that she had written the anonymous letters to herself, accusing her husband of infidelity, had addressed and posted them, and had eventually become impressed with the conviction that the letters were actually written by a stranger, and contained a true statement of facts. They had, as it afterwards appeared, been concealed about her person for nearly six months.

We occasionally observe evidences of this morbid state at a very early period of life, consequent upon an original defect in the organisation of the intellect. Thomas Pepper, fourteen years of age, a pot-boy, a clever lad, but of sullen and morose disposition, committed suicide by hanging himself in an arbour in his master's bowling-green. It appeared from the evidence that the mind of the deceased was peculiarly formed, his conduct frequently evincing a disposition to cruelty. He had been frequently known to hang up mice and other animals for the purpose of enjoying the pain which they appeared to suffer whilst in the agonies of death. He would often call boys to witness these sports, exclaiming—"Here's a lark; he is just having his last kick." He had often been known to catch flies and throw them into the fire, that he might observe them whilst burning. He had also been observed, whilst passing along the street, to pull the ears of the children, lifting them off their ground by the ears, and when they cried out

with pain, he would burst out into a fiendish paroxysm of delight at their sufferings. Witnesses deposed that about four years previously, when only ten years of age, he attempted to strangle himself in consequence of his mother having chastised him. He locked himself up in a room, and when discovered life was nearly extinct.* I refer to this as a *type* of mental depravity, occurring in early life, arising from a congenital defect in the organisation of the brain and intellect.

I saw some years ago a youth whose whole moral character had become completely changed in consequence of a severe injury he had sustained. This young gentleman, when of the age of eighteen or nineteen, was attacked by fever. In a paroxysm of delirium he sprung violently out of bed and severely cut his ankle; considerable hæmorrhage followed. After his recovery his whole moral character was found to have undergone a complete metamorphosis. From being a well-conditioned boy, kind and affectionate to his parents, steady in his habits, sober, and of unimpeachable veracity, he became a drunkard, liar, and thief, being lost to all sense of decency and decorum. He was clever, intelligent, and sharp-witted; but his every action was perfectly brutal. This boy, prior to his illness, was known to hang with endearing affection round the neck of his mother; but after this sad change I have seen him attack her with brutal and savage ferocity. This patient was for some years in close confinement. He was subsequently sent abroad, but during a voyage to the East Indies he mysteriously disappeared one evening from the quarter-deck of the ship, and is supposed to have committed suicide by throwing himself into the sea. In another *type* of unrecognised mental disorder there appears to

* From the *Times*.

be a paralysis of the moral sense, a state termed *moral idiocy*.*

A young gentleman, greatly indulged and petted at home, exhibited shortly after going to school a morose, cruel, and revengeful disposition. He quarrelled with the other boys, committed several petty acts of robbery, accusing others of being the culprits. He pursued his studies with intel-

* Grave exceptions have been taken to the term "*moral idiocy*" by writers who have entirely misconceived the medico-psychological import of the phrase, as well as by others who have never had an opportunity of becoming practically acquainted with this singular type of congenitally defective intelligence. A modern author thus refers to the popular prejudices on this subject:—

"To some minds the idea of a moral idiot involves painful notions of the Creator. I may be permitted to remark that they rest on the false philosophy of the Eudaimonist. So long as we consider happiness as the great end of life, and virtue only its instrument, so long shall we find difficulties to solve in the mischiefs wrought by beings whom ignorance or fatuity renders irresponsible. To the Eudaimonist such mischief appears a final evil; and as he is forbidden to attribute it to the irresponsible agent, he is driven to attribute it to God. But the difficulty ceases when we perceive that the end of creation is the perfecting of souls, and the production of happiness is altogether secondary thereto. Sin is now seen to be evil, not for the external mischief it produces, but for its own sake as the most evil of all things. The outward act, be it ever so mischievous, is not *sin*; the will constitutes the sin. Thus, when offences are committed by an irresponsible agent, God does not become the author of any sin, for sin is nothing but the conscious, wilful delinquency of a free creature, and there is no sin without it, any more than in the ravages of the storm and flood. The *mischief* done takes its place along with the suffering which is necessary to the end of creation; and when the great drama is further advanced, we shall understand the reason of what seems unaccountable in the one short scene we now behold. To ask further why moral idiots should have been created, is equivalent to asking why there should be intellectual idiots, children dying in infancy, &c. We must deem their existence on earth motived by reasons which (while ignorant of all life beyond us) we may not guess. The children at a school marvel why a parent withdraws his son soon after entrance, or does not suffer him to learn with them; bu it is all understood *at home*."—"Essay on Intuitive Morals, being an attempt to popularise Ethical Science." Part I. Theory of Morals. 1855. P. 113.

ligence, and was generally at the head of his class. His conduct became so systematically brutal, savage, and untruthful, that his father was requested peremptorily to remove him from the school. The gentleman under whose care the youth was placed was induced, by the earnest persuasions of the parent, to alter his determination and retain the boy. For several days the youth was noticed to be unusually morose and taciturn. He was subsequently perceived to be busily occupied in writing. Being called suddenly out of the room, his letter was examined, and it was found to contain the details of a plan he had carefully concocted and ingeniously conceived for the murder of one of the boys in the school towards whom he entertained feelings of rancorous animosity. His letter was written to a boy who had left the school for misconduct, and who appeared to be in his confidence. He had procured a long sharp-pointed bodkin, which he intended, whilst his victim was asleep, driving into his heart by means of a hammer with which he was armed. In the letter giving a minute description of the contemplated murder he says, "To-night I will do for the little devil." This boy was immediately placed under the care of his father, and, on the advice of an eminent provincial physician, he was, without loss of time, subjected to close restraint. I am informed that there is now no doubt of his insanity. I did not see this case myself, but I obtained these particulars from the father of the young gentleman who had so providential an escape of his life. If this youth had committed suicide, what would have been the plea urged in his defence, and the verdict of the jury?

A boy, sixteen years of age, of singularly unruly and intractable character—selfish, wayward, violent—and without ground or motive, was liable, when under paroxysms of his moodiness, to do personal mischief to others. He was not, however, of a bold character. He was of fair under-

standing, and exhibited considerable acuteness in sophistical apologies for his wayward conduct. He made little or no progress in any kind of study. His fancy was vivid, supplying him profusely with sarcastic imagery. He was subjected at different times to a firmly mild and to a rigid discipline. Solitary confinement was tried, but to this he was impassive. He was sent to school, where he drew a knife upon one of the officers of the establishment, and produced a deep feeling of aversion in the minds of his companions by the undisguised pleasure which he showed at some bloodshed which took place in the town during a political disturbance. He manifested no sensual disposition, and was careful of property. His conduct became worse and more savagely violent to his relatives. It is recorded that at the early age of thirteen he stripped himself naked and exposed his person to his sisters.

The previous illustration is referred to by Dr Mayo as a type of moral idiocy or congenital depravity.

Dr Haslam had a boy thirteen years of age under his care who appeared to possess no one of the moral faculties. He was conscious of his lamentable state, and often asked, with touching pathos, "why God had not made him like other men?"

Shakspeare has placed in Edgar's mouth a faithful portrait of this class of case. When delineating his own character, he exclaims—

> "I was a serving-man, proud in heart and mind,
> That served the lust of my mistress's heart,
> And did the act of darkness with her;
> Swore as many oaths as I spake words;
> Wine I loved deeply, dice dearly:
> I was false of heart, light of ears, and bloody of hand;
> Hog in filth, fox in stealth, wolf in greediness,
> Dog in madness, lion in prey."

I have previously referred to instances of unrecognised

monomania floating upon the surface of society. I am acquainted with two cases of this form of mental disorder where disease of the mind is not suspected. These latent and masked attacks of monomania frequently lead to overt acts of violence, crime, brutality, suicide, and very often to alienation of property, no departure from health of mind being suspected.

A few years back I received a summons from a London police magistrate to examine a case of alleged insanity.* It appeared that a labouring man had committed several serious assaults, and was consequently arrested by the police. This man was examined by a medical gentleman, who said he had no doubt as to his insanity, without, however, being able to assign sufficient reasons for such an opinion. The magistrate had on more than one occasion himself investigated the case, and had taken the evidence of the surgeon referred to, but could detect no insanity in the prisoner's appearance or conversation. The medical gentleman asserted it to be his belief that the prisoner was insane, basing his conclusions upon the man's apparently unreasonable conduct and mad acts of motiveless violence. I examined the prisoner publicly in court, and it was not until after the expiration of nearly three-quarters of an hour that I obtained the key-note to the actual state of his mind. I then discovered that he was unequivocally insane. He was under a delusion that a stranger, having designs upon his life, was in the habit of placing daily a small pill upon the mantelpiece of his bedroom, that this pill (which he was compelled to swallow) contained an ingredient that greatly excited him, destroying all power of self-control, and leading him to commit the acts of violence of which he stood charged. His insanity then became obvious, and the magistrate signed a warrant for his committal to an asylum

* Gilbert Abbott à Beckett.

It appeared that this insane man had been severely punished on previous occasions for different acts of unexplained violence, no one expecting the existence of mental disorder. It was not until he had been subjected to a close and rigid examination for nearly three-quarters of an hour (during which the lunatic showed extraordinary ingenuity in concealing his delusion and great cleverness in fencing with my questions) that the presence of an insane idea was satisfactorily established.

Do we sufficiently estimate the effects of *physical* disease upon the character and actions of those upon whose conduct we are sometimes called to sit in judgment? How slight are the changes in the corporeal health, and subtle the variations in the delicate structure of the brain, that precede and accompany remarkable alterations in the moral and intellectual character. The brave and heroic become, in particular states of ill-health, as timid and bashful as coy maidens. Humane men have been driven to acts of desperation and cruelty under the influence of certain physical diseases disturbing and deranging the operations of thought. "There are ebbs and flows of bravery, and some distempers bring a mechanical terror upon the imagination."

"Let me introduce a fact or two," says Dr M'Culloch in his work on *Marsh Fevers*, "relating to the effect which remittent fevers has in destroying the energy of the mind and extinguishing the courage even of men habitually brave and reckless. This is a confession which I have received from many persons, but from no one so strikingly as a Spanish officer of high rank, who had been engaged in the most perilous situations during a long war in that country, and who acknowledged that he had immediately become a coward, while fully aware of the cause, from an attack of neuralgia of the face. The disease in this case also lasted

long, while this ardent spirit had become almost womanly, shedding tears on the slightest occasion. The same effect in reality follows all the intermittent diseases when they become chronic." *

The celebrated General Custine, evidencing at the battle of Mayence high health and vigour, dauntlessly advanced with heroic courage to the mouths of the Austrian cannon, yet, after having suffered from bodily disease and loss of nervous energy, he proved a dastardly coward and poltroon at the sight of the guillotine.

"The little I have seen of the world, and known of the history of mankind, teaches me to look upon the errors of others in sorrow, not in anger. When I take the history of one poor heart that has sinned and suffered, and represent to myself the struggles and temptations it has passed—the brief pulsations of joy—the feverish inquietude of hope and fear—the tears of regret—the feebleness of purpose—the pressure of want—the desertion of friends—the scorn of the world that has little charity—the desolation of the soul's sanctuary, and threatening voices from within—health gone—happiness gone—even hope, that stays longest with us, gone,—I have little heart for aught else than thankfulness that it is not so with me, and would fain leave the erring soul of my fellow-man with Him from whose hands it came." †

The biography of tyrants, REGAL and DOMESTIC, is yet to be written, and it remains for the philosophic historian, capable of appreciating the effects of defective and arrested cerebral organisation, the influence of physical and moral agents, as well as bodily disease upon the character and temperament, to account psychologically for the actions of men distinguished for a career of morbid selfishness, crime, cupidity, caprice, tyranny, brutality, and vice.

* Dr Thomas Beddoes' "Hygeia." † Longfellow's "Hyperion."

We do not possess data to enable us to judge satisfactorily of the mental or physical state of Caligula, Tiberius, or Nero, the latter of whom Tacitus informs us was designated by his tutor, at the age of twenty, as "*a compound of mud and blood.*"* Is it not charitable to suppose they were physically and morally diseased and of unsound mind, the insanity manifesting itself in conduct, and not in ideas?

Can there be anything advanced psychologically in palliation of the atrocious crimes of Catherine de Medici,

* Tacitus (as quoted by Paley in his *Evidences of Christianity*, p. 17) says, when speaking of the fire which happened at Rome in the time of Nero, and of the suspicions which were entertained that the emperor himself was concerned in causing it, proceeds in his narrative and observations thus :—" But neither his exertions, nor his largesses to the people, nor his offerings to the gods, did away the infamous imputation under which Nero lay, of having ordered the city to be set on fire. To put an end, therefore, to this report, he laid the guilt, and inflicted the most cruel punishments upon a set of people who were holden in abhorrence for their crimes, and called by the vulgar Christians. The founder of that name was Christ, who suffered death in the reign of Tiberius, under his procurator, Pontius Pilate. This pernicious superstition, thus checked for a while, broke out again ; and spread not only over Judea, where the evil originated, but through Rome also, whither everything bad upon the earth finds its way and is practised. Some who confessed their sect were first seized, and afterwards, by their information, a vast multitude were apprehended, who were convicted, not so much of the crime of burning Rome as of hatred to mankind. Their sufferings at execution were aggravated by insult and mockery ; for some were disguised in the skins of wild beasts, and worried to death by dogs ; some were crucified ; and others were wrapt in pitched shirts—[this is rather a paraphrase, but is justified by what the scholiast upon Juvenal says :—" Nero maleficos homines tædâ et cerâ supervestiebat, et sic ad ignem admoveri jubebat."—Lard. *Jewish and Heath. Test.*, vol. i. p. 359] and set on fire when the day closed, that they might serve as lights to illuminate the night. Nero lent his own gardens for these executions, and exhibited at the same time a mock Circensian entertainment, being a spectator of the whole in the dress of a charioteer, sometimes mingling with the crowd on foot, and sometimes viewing the spectacle from his car. This conduct made the sufferers pitied ; and though they were criminals deserving the severest punishments, yet they were considered as sacrificed, not so much out of a regard to the public good as to gratify the cruelty of one man."

or that would extenuate in the eyes of the world the brutal treatment to which Frederick William of Prussia, father of Frederick the Great, subjected his son, or be an apology for the tyranny and savage brutality of Judge Jeffreys, excuse the murders of Henry VIII., the bloody career of Robespierre, or the apparently insane furor with which the poet Savage was hunted to death by his own mother?

No sooner was the poet born than his mother most ignominiously discarded him. After he had discovered her name it was his practice to walk in the evening after dark for several hours before the door of the house, hoping to see her as she came by accident to the window, or crossed the apartment with a candle in her hand; but, as Dr Johnson says, "he could neither soften her heart nor open her hand." In attempting to explain the insane hatred exhibited by the mother of Savage towards her only child, and the intense malignity with which she, by the most awful falsehoods, endeavoured to procure his death at the hands of a public executioner, Dr Johnson observes, that the "most execrable crimes are sometimes committed without apparent temptation."

His own miserable fate is thus feelingly alluded to by the poet:—

> "No mother's care
> Shielded my infant innocence with prayer;
> No father's guardian hand my youth maintained,
> Called forth my virtues, or from vice restrained."

May not all these melancholy departures from ordinary and healthy modes of thought, impulse, and action, constitute evidence, not only of depravity and vice in their ordinary signification, but of undetected, unperceived, unrecognised mental disease, in all probability arising from cerebral irritation or physical ill-health, necessitating not restraint,

but a careful attention to the physical health? Catherine de Medici's disposition did not show itself until after the death of her husband. How much of her conduct was to be attributed to the shock thus caused to her nervous system? It is said she suffered from determination of blood to the head so severe in its character as to require occasional bleeding for its relief.

Frederick William of Prussia was a debauchee and a drunkard. He conceived, without reasonable cause, an inveterate hostility to his eldest sister, as well as to the prince, his son, afterwards Frederick the Great. He compelled them both to eat the most unwholesome, disgusting, and nauseous food, into which he was in the habit of constantly spitting. He behaved towards his son with great ferocity. The king suffered from severe attacks of mental depression. It was during one of these paroxysms that he attempted suicide. Who can entertain a doubt of his unhealthy state of mind, or of the good that would have resulted had his brutality and cruelty been considered symptoms of some affection of the brain, and he had been medically treated for the malady? Robespierre after his death was found to have extensive visceral disease. He suffered much from this affection during life. It is recorded that he was in the habit of rolling on the ground for hours in acute pain.

Judge Jeffreys was "tortured by a cruel internal malady, which had been aggravated by intemperance."* In the celebrated Western or "Bloody Assizes," this monster is said to have *hanged* 320 and *transported* 855 persons, for "the most part of blameless life and of high religious profession." Previously to his starting for the circuit, his health and spirits had given way. "He had been deeply mortified by the coldness of the king and by the insolence

* Lord Macaulay's "History of England," vol. i. p. 67.

of the chief justice, and could find little consolation on looking back on a life, not, indeed, blackened by an atrocious crime, but sullied by cowardice, selfishness, and servility." During the celebrated trial of Lady Alice Lisle, Jeffreys is said to "have stormed, cursed, and swore in language which no well-bred man would have used at a race or cock-fight." Addressing himself to one of the witnesses who gave evidence in favour of Lady Alice, he exclaimed, with an oath—"Was there ever such a villain on the face of the earth? Dost thou believe that there is a God? Dost thou believe in hell-fire? A Turk is a saint to such a fellow as this! What a generation of vipers we live among! Was there ever such an impudent rascal? Hold the candle to him, that I may see his brazen face!" As Jeffreys proceeded in his bloody business, his "spirits rose higher and higher as the work went on. He laughed, shouted, joked, and swore in such a way that many thought him drunk from morning to night."*

The celebrated Princess Christina of Sweden, who from a Lutheran became a Catholic, and resigned her throne for conscience' sake, was guilty of an incredible act of frightful cruelty soon after her change of faith. She had carried on an amour in former times with a young nobleman, who, in a moment of thoughtlessness, divulged the criminal secret. When the Princess was at Paris, on her way to Rome, this intelligence was conveyed to her. She immediately, in spite of her religious zeal, determined upon executing summary revenge. At a fixed hour she appointed to meet her confessor in a gallery at Fontainebleau, and she commanded the young nobleman to be there soon afterwards. On his appearing, she taxed him with infidelity; and showing him letters in proof of it, sentenced him to death. In the vigour of manhood and of health, he was loth to die, and he

* Lord Macaulay, p. 600.

besought his life with tears; but the Princess was inexorable. She gave him time to confess, and some soldiers were ordered to fall upon him with their swords and dispatch him. This they had some difficulty in accomplishing, as he wore steel armour underneath his doublet. The Princess, as soon as the murder was discovered, was ordered to leave Paris. She went to Rome, and there had masses said for the repose of her murdered paramour's soul. The Princess was said to be "proud, vain, passionate, and capricious."

Is not the physician best fitted by education to investigate and elucidate satisfactorily these interesting morbid mental phenomena, and most qualified to suggest the possibility of effecting important changes in the *moral* and intellectual condition, by bringing within the sphere of medical treatment the *physical* condition giving rise to such departures from healthy states of the affections and propensities? Many a suicide would be prevented, and murderous and criminal impulse destroyed, if an active cathartic were exhibited or the cerebral circulation relieved, and rendered less active by means of local depletion.

Men have been hanged for crimes which the physician might have prevented. Damien declared to the last that had the vessels of his brain been unloaded by bleeding, as he earnestly requested, he never would have attempted the life of Louis XV.

It is recorded of Caligula that his reign commenced with mildness, but that the end of the first year, after a violent attack of *bodily illness,* his career was marked by cruelty, violence, and crime, slaughtering, in an apparently irresponsible state of mind, the noblest men of Rome, and hunting the innocent spectators of a public show into the waters of the Tiber.

It is thought possible, by a course of medicine and a

system of dietetics, to modify the diathesis, both mental and physical. Dr Arbuthnot alleges that he cured an irascible disposition by rigidly enforcing a milk and vegetable diet. A man subject to severe paroxysms of anger, caused by temporary congestion of the brain, was said to have been benefited by the application of a few leeches to the head.

Coleridge, when referring to the hallucinations from which Luther suffered at a particular period of his life as caused by physical irritation, observes, the great Reformer's unremitting activity, labour, and sedentary mode of life during his confinement at Wartzburg, had undermined his former usually strong health.* He suffered from severe indigestion; so much so, that his friend Melancthon urged him to consult a physician at Erfurth. He did so, and for a time regained his health. He soon, however, relapsed into his former state of indisposition. Coleridge says it was evident from his letters that Luther had great irritability of the nervous system, the common effect of indigestion in men of sedentary habits, who are at the same time intense thinkers; and this irritability, added to a revivification of the impressions made upon him in early life, and fostered by the theological system of his manhood, is abundantly sufficient to explain all his apparitions and nightly combats with evil spirits. "I see nothing," says Coleridge, "improbable that in one of those unconscious half-sleeps, or rather those rapid alternations of the sleeping with the half-waking state, which is the true 'witching time,'

'The season
Wherein the spirits hold their wont to talk'—

* Luther says—"I awoke in the middle of the night. Satan appeared to me. I was seized with horror. I sweated and trembled. My heart beat in a fearful manner. The devil conversed with me. His logic was accompanied by a voice so alarming that the blood froze in my veins.

the fruitful *matrix* of ghosts—that in one of those moments of slumber into which the suspension of all thought, in the perplexity of deep thinking, so often passes, Luther should have had a full view of the room in which he was sitting, of his writing-table, and, at the same time, a brain image of the devil, vivid enough to have acquired an apparent *outnesss*, and a distance regulated by the proportion of its distinctness to that of the objects really impressed upon the outward senses."*

Zuinglius was tormented with the solution of some religious dogmas, which he endeavoured night and day to unravel, but failed in doing so. Having to preach upon this very point, he dreamt that he was disputing with the Town Secretary, who pressed him very closely. On a sudden he saw a phantom, white or black, appear before him, who spoke these words—" Coward, why answerest thou not what is written in Exodus?" &c. &c. Zuinglius, availing himself of this thought suggested in a half-conscious state of sleep, proposed it to his disciples, who made use of it as their celebrated watchword or ensign, as it remains among them to this day. Here is a case where the sensorium, over-heated and over-pressed by too close an application of the mind to a very abstruse question, fell into an apoplectic turgescence, during the transient continuance of which the retina became so disturbed as to conjure up a phantom which the patient not only mistook for a reality, but, what is still worse, acted upon his mistake or diseased imagination. Zuinglius was killed in battle, and manifested that, however warm a disputant, he was no less a bold combatant, for it was certain that he had advanced far into the hottest of the engagement, and died sword in hand.

No one can read the interesting account of the unhappy

* "The Friend," p. 238.

controversy between Hume and Rousseau* without being convinced that the latter must have suffered at the time

* Rousseau says—"One evening a remarkable circumstance greatly struck me. As we were sitting by the fire I caught a sight of Hume's eyes intently fixed on mine, as indeed happened very often, and that in a manner of which it is difficult to give an idea. At that time he gave me a steadfast, piercing look, mixed with a sneer, which greatly disturbed me. To get rid of the embarrassment I lay under, I endeavoured to look full at him; but on fixing my eyes on his, I felt a most inexpressible terror, and was obliged soon to turn them away. The speech and physiognomy of the good David is that of an honest man, but where, great God! did this good man borrow those eyes he fixes so sternly and unaccountably on those of his friend? The impression of this look remained with me, and gave me much uneasiness. My trouble increased, even to a degree of fainting; and if I had not been relieved by an effusion of tears, I had been suffocated. Presently after this I was seized with almost violent remorse—I even despised myself—till at length, in a transport which I still remember with delight, I sprang on his neck, embraced him eagerly, whilst almost choked with sobbing and bathed in tears. I cried out, in broken accents, 'No, no, David Hume cannot be treacherous; if he be not the best of men, he must be the basest of mankind.' David Hume politely returned my embraces, and gently tapping me on the back, repeated several times, in a good-natured and cosy tone, 'Why, what, my dear sir! nay, my dear sir! oh, my dear sir!' He said nothing more. I felt my heart yearn towards him. We went to bed, and I set out the next day for the country. The first night after my departure with Hume for Paris we slept in the same chamber, when, during the night, I heard him several times cry out with great vehemence, in the French language, '*Je tiens, Rousseau*' 'I have you, Rousseau.' I know not whether he was awake or asleep. The expression was remarkable, coming from a man who is too well acquainted with the French language to be mistaken with regard to the force or choice of words. I took these words, however, and I could not then take them otherwise, than in a favourable sense, notwithstanding the tone of voice in which they were spoken was still less favourable than the expression. It is indeed impossible for me to give any idea of it, but it corresponds exactly with those terrible looks I have before mentioned. At every repetition of them I was seized with a shuddering, a kind of horror, and could not resist, though a moment's recollection restored me, and made me smile at my terror. The next day all this was so perfectly obliterated that I did not even think of it during my stay in London and its neighbourhood. It was not till my arrival in this place that so many things have contributed to recall them every moment.'—"*Life of David Hume*," *prefixed to his Philosophical Essays*, vol. i. p. 83.

from an attack of temporary frenzy. "The strange influence of his bodily temperament on his understanding, his constitutional melancholy, pampered into a morbid excess by solitude, his wild dreams of suspicion, his hypochondriacal fancies of hosts of conspirators, all leagued against him and his cause, and headed by some arch-enemy, to whose machinations he attributed every trifling mishap," are referred to as signs of an abnormal state of mind, not at the period recognised, or urged as an apology for conduct which set the author of *Emile* against all the world, and all the world against him.

The persecution which Rousseau appeared to court, his affectation of singularity, his determination to live in a world of his own creation, and to have no sympathy or thought in common with his fellow-men, all indicate a constitution of mind, if not actually diseased, at least not remotely removed from that condition. Such, it would appear, is destined to be the unhappy fate of all who, to gratify a morbid singularity, resolutely oppose their own crude notions to the calm, deliberate, and healthy notions of the rest of the world. In attempting a philosophical explanation of these mental phenomena, Coleridge observes —"To know that we are in sympathy with others moderates our feelings as well as strengthens our convictions; and for the mind which opposes itself to the faith of the multitude, it is more especially desirable that there should exist an object *out of itself*, on which it may fix its attention, and thus balance its own energies."*

In some conditions of nervous disorder the slightest changes of temperature give rise to singular alterations of despondency, despair, hope, and joy—so completely does the mind succumb to physical influences. I have known a person subject to attacks of suicidal melancholia during

* "The Friend," p. 224.

the prevalence of a cold, blighting, depressing east wind, who appeared happy, contented, and free from all desire to injure himself under other and more congenial conditions of the atmosphere.* An Italian artist never could reside a winter in England without the distressing idea of self-destruction repeatedly suggesting itself to his morbidly-depressed mind. Natives of France, accustomed from early life to the buoyant air and bright azure sky of that country, have sunk into profound states of mental despondency if compelled to reside many weeks in London during the earlier portion of the winter season. A military man, suffering from severe mental dejection, was in the habit of promenading backward and forward in a certain track, towards evening, on the ramparts of the town in which he resided. When he walked forward his face fronted the east, where the sky was hung with black, as was, alas! his poor soul. Then his grief pressed doubly and heavily upon him; he was hopeless and in deep despair; but when he turned with his countenance towards the west, where the setting sun left behind a golden stream of life, his happiness returned. Thus he walked backward and forward, with and without hope, alternating between joy and melancholy, ecstasy and grief, in obedience to the baneful and benign influence of the eastern and western sky. To this sad extent are the functions of the nervous system and operations of the mind under the dominion of the physical laws regulating the bodily health.†

* "Could we penetrate into the secret foundation of human events, we should frequently find the *misfortunes* of one man caused by the *intestines* of another, whom the former endeavoured to inspire with sympathy in his fate, at a moment when the frame of mind of the latter was affected by impeded secretion. An hour later, and his fortunes would have been made."—*Feuchtersleben's "Medical Psychology"*

† Alfieri, in a memoir of himself, says—"I have observed, by applying to my intellect an excellent barometer, that I had greater or less genius or capacity for composition, according to the greater or less weight of the

A young man, proverbial for his gentleness, one evening formed one of a billiard party. His companions were of his own age. Contrary to his wont, he played badly, quarrelled and wrangled with, and in the end offended, everybody in the room. Two hours after he was seized with nephritic pains, caused by the irritation of a calculus, which was expelled on the following day from the kidney and bladder. A very nervous man, suffering from stone, underwent occasionally the operation of *lithotrity*. To spare him the pain and spasm inseparable from the introduction of the instrument into the bladder, he was placed under the influence of chloroform. Impressions were never completely extinguished, but they were blunted. Thus, at the moment when the lithotrite was introduced, the patient manifested the struggles of anguish, he resisted with energy; but when the pain reached its acme, he cried out—"You shall not conquer me! What means this violence? Peter! Antony! (said he, calling loudly to his domestics) drive away these men!" and, he added, "You will have done well! You will obtain nothing; I shall not consent to an unequal division. My children are all equal in my affections!" Thus, a general sentiment of anguish, occasioned by physical pain, excited in him the idea of moral constraint. *

In what respect do these phenomena differ from the state of the mind existing in insanity except in their temporary and transient character? Suppose a continuance of the nephritic irritation, accompanied by the same psychical manifestation and loss of volitional power, and we observe

atmosphere: a total stupidity during the solstitial and equinoctial winds, an infinitely less perspicacity in the evening than in the morning; and much more fancy, enthusiasm, and invention in mid-summer than in the intervening months."

* These two illustrations are taken from Dr Gratiolet's work on the "Comparative Anatomy of the Nervous System."

that irritability, tendency to violent conduct, disposition to motiveless acts of violence, so often witnessed in the early as well as advanced stages of mental derangement. Again, if we could conceive the condition of mind which followed the administration of chloroform to be in existence for any length of time after the acute effect of the anæsthetic agent had subsided, would not the state be one of insanity ? These illustrations could be multiplied *ad libitum*.

There are many conditions of eccentric thought, transient states of intellect, temporary manifestations of irregular and erratic emotion, and evanescent phases of violent ungovernable passion, which would constitute insanity, and insanity, too, of a formidable type, if such states of mind were of a *persistent*, and not of a *fugitive* and transient character.

Psychical phenomena, analogous to what has previously been referred to, are occasionally observed in patients suffering from temporary attacks of delirium caused by the absorption into the blood of some form of poison, of which there is upon record a remarkable and deeply interesting illustration which I offer no apology for quoting in detail. The case was one of *hydrophobia*, occurring in a female aged twenty-one. A few days after the attack she commenced raving, imagining that she had been accused of some crime, for which she was in prison. Under the influence of this delusion she sprang up to make her escape, and tried to throw herself out of the window, saying with great agitation, "I have done no harm." It was then deemed necessary to confine her by means of a strait-waistcoat.

About eight o'clock at night, upon Dr Lister and Dr Hamilton (the physicians of the hospital) entering the ward, they heard a female voice speaking thick and eagerly in the ward (for the other patients in the hospital had been removed). A candle was brought to the bed, and the curtains were drawn back. The young woman was lying on her

back, exerting all her force to get up ; terror in her countenance, eyes glistening, pupils much dilated, the whole face and neck uniformly red, and steaming with perspiration ; pulse incredibly swift and small. She became very restless. Her tongue was clear ; and saliva was running from the corners of her mouth.

She was in a state of great terror, with fear in her looks, and struggling to get away, calling out, "Let me go ! let me go !" By transitions, too quick to be marked, she seemed to fancy herself at the entrance of some horrid place, exclaiming—"Now, do go in first ; well, I will enter." Quick as our own thoughts, and as if exposed to the violence of ruffians, with alarm still in her look, and in an earnest imploring manner, she said—"As you are a gentleman, you will not leave a helpless girl to these . . . ." Her agony of terror increased, and she cried peremptorily and wildly—"Don't leave me, sir ; don't leave me, I beseech you." Her mind was in a moment hurried from this idea to an imaginary place where she fancied she was going to be used cruelly by a woman. "She will tie me up—break my bones," she cried, with terrified looks, exerting all her force to escape. She then sunk into a state of calmness for a minute, but soon her frightened looks, and averted head and neck, expressed a renewed conflict with danger. Her mind became a little more tranquillised, but still unhappy from fancying herself detained by force from obeying some order of her mistress. "Let me go (she cried) ; my mistress wants me." The apprehension of her mistress's anger increased, and she vociferated, "I beseech you, let me go ;" then, with imploring looks, added, "I pray, as if at Heaven's gates, let me go but for five minutes ; I will return to you—indeed I will ; my mistress calls me."

While she was thus occupied with the thoughts of her mistress's anger a piece of orange was offered her to eat

She said, "I will; do let me go to my mistress." She then received the orange into her own hand, muttering, "It will choke me." Then struggling hard, as with an idea to get home, she, as if designedly, dropped it under the fold of a blanket, exclaiming, in accents of wild despair, "As you are a gentleman, do not hinder me; I must go." In a moment she fancied herself again exposed to acts of cruelty, for with sudden terror he cried out, "They are breaking my legs." After this emotion she appeared, in her excited fancy, to have reached a place of safety, where she lay quiet a minute or two, as if breathing from the toils and dangers she had escaped.

The opportunity of her being calmer was seized to engage her attention to a present object. A teaspoonful of gruel was offered her to drink, and she was urged to take it. She said, as if returned to the knowledge of her real situation, she was not dry, and then began to rave again about her mistress. It was said it would do her good; upon which she seemed by her manner as if she wanted to have the spoon in her own hand. It was given to her, but she only kept the spoon in her hand, requesting to be allowed to go to her mistress, until she spilled the contents by little and little on the bed-clothes. Her attention having been thus called to present objects, she seemed to return to the knowledge of herself.

Another teaspoonful was offered to her, upon which she signified that she was prevented from properly taking it by her hands being confined. The cords of the sleeves of the waistcoat were slackened, and she was requested to swallow the gruel. She held it in her hand, beginning to be intent again to get to her mistress; and it was remarkable that, without knowing what she was doing, or at least without giving attention to the act, she put the teaspoon into her mouth and swallowed the contents. As she was miserably

restless, and sometimes violently struggling, it was said if she would be still, her hands and arms should be set at liberty. She seemed to assent to this proposal, and the cords were untied; but the moment she felt her arms and body at liberty, she began to turn down the bed-clothes. Her looks kindling afresh, and expressing that she was bent on escaping or doing something dreadful, the cords were drawn tight again and her body confined.

The medical gentlemen remained about twenty minutes at her bedside, and in that short time she underwent the sufferings previously enumerated, and many more not described. It was deeply distressing to witness her appearance and agitations. It was painful to leave her in such poignant misery, without being able to give the smallest relief. As the physician went out of the ward of the hospital they heard her exclaiming as if in a fresh conflict with some new overpowering danger; and when the door was shut, her eager, interesting voice was still heard at a distance, complaining, beseeching, shrieking in darkness, despair, and solitude. She died early on the following morning.* Is it not probable that, in this case, the mechanical restraint which was used to prevent her doing serious mischief to herself during her violent paroxysms of excitement may have suggested to her morbidly agitated thoughts the idea of persons *physically* overpowering her?

Dr Darwin relates the case of a clergyman who, under the influence of morbid views of religious duty, was in the habit of bruising and wounding himself, with the object, he said, of "*mortifying* the flesh." This devotee occupied much time at his prayers, and continued whole nights alone in the church. As he had a wife and a family dependent upon him for support, an unfavourable prognosis was formed of the case, it being supposed that the

* "Morbid Anatomy of the Brain," by A. Marshall, M.D. London, 1815.

sympathy, affection, and devotion manifested towards him, as well as the pre-occupation of mind so afforded, might have checked the insanity in its early stage. This gentleman was removed to an asylum. He subsequently returned home, and died from the combined effects of self-inflicted injuries and continued abstinence from food, which he practised in obedience to his insane hallucinations. Dr Darwin endeavoured to reason him out of his delusions, by saying that "God was a merciful Being, and could not delight in cruelty, but that he (Dr Darwin) supposed that the patient worshipped the devil." The lunatic appeared for a short period struck with the idea, and promised not to beat himself for *three* days, but he only restrained himself from so doing for four-and-twenty hours. Dr Darwin adds:— "When these works of supererogation have been of a *public* nature, what cruelties, murders, and massacres, has not this insanity introduced into the world." A person who had been very active in leading and encouraging the bloody deeds of St Bartholomew's day at Paris, when confessing on his death-bed his sins to a worthy ecclesiastic, was asked, "Have you nothing to say about St Bartholomew's day?" He replied, "On that occasion God Almighty was obliged to me!"*

* "Many fanatics (the Donatists) were possessed with the horror of life and the desire of martyrdom; and they deemed it of little moment by what means or by what hands they perished, if their conduct was sanctified by the intention of devoting themselves to the glory of the true faith and the hope of eternal happiness. Sometimes they rudely disturbed the festivals and profaned the temples of paganism, with the design of exciting the most zealous of the idolaters to revenge the insulted honour of the gods. They sometimes forced their way into the courts of justice, and compelled the affrighted judge to give orders for their immediate execution. They frequently stopped travellers on the public highways, and obliged them to inflict the stroke of martyrdom by the promise of a reward, and by the threat of instant death if they refused to grant so very singular a favour. When they were disappointed of every other resource, they announced the day on which, in the presence of their

Can any person acquainted with the confession of Ravaillac entertain a doubt as to his insanity and moral irresponsibility at the time he assassinated Henry the Fourth of France, for which he suffered the prolonged and agonising tortures of the rack, being afterwards torn to pieces by four horses drawing in opposite directions. Ravaillac had assumed the habit of the *Feuillans,* but his visions and extravagances were the cause of his being expelled the cloister. At that time some fanatical preachers taught that it was lawful to kill those who threatened the Catholic religion. Ravaillac, naturally dark and bilious, greedily swallowed down these abominable principles. He resolved to assassinate Henry IV., whom his overwrought imagination represented in the light of one favourable to heresy. Six months before his crime he set out from Angoulême, in order to speak to the king, and kill him, if he could not convert him. He did not succeed in obtaining an audience, and for some time he was much less disturbed by his visions. But they returned, and instigated him anew. He stole a knife fit for the purpose from a tavern in Paris, and set out on his return home once more. Being near Etampes, he broke off the point in a repentant mood, but sharpened it again. He came back to Paris, dogged the king for several days, and at last, more determined than ever, slew him on the 14th May 1610.

A maid-servant exhibited, by her wild looks, singular conversation, and strange manner, symptoms of mental disorder. She was placed under treatment, and restored to health. A short period after her recovery she met the medical man who had attended her. Upon being questioned as to the state of her health prior to being placed in

friends and brethren, they should cast themselves headlong from some lofty rock; and many precipices were shown which had acquired fame by the number of religious suicides.—*Gibbon's Decline and Fall*, chap. 21.

an asylum, she hung down her head, and said, "If you will not betray me, Sir, I'll tell you a secret." Upon his assuring her that he would not, she said, "Why, Sir, that physic that you give those mad folk is very comical sort of stuff, for when I was first sent to you, nothing in the world was the matter with me, but I was most desperately in love as ever poor wench was, and your physic has quite entirely cured me. I am now as happy as the day is long, and I mind the man no more than I do you or any one else." The medicine so effectual in the removal of the love-madness was an emetic and two or three active calomel purges. The fact was, the girl's love affair was the first evidence of her insanity, which the medicine was successful in arresting and curing.*

A merchant, fifty-five years of age, father of a large family, of a strong constitution, although of a lymphatic temperament, mild and gentle in his disposition, who had acquired a considerable fortune in business, experienced some domestic troubles, not sufficiently serious, however, to affect any one possessing a vigorous mind and healthy organised brain. About a year previously he formed a large establishment for one of his sons, and shortly afterwards became very active, and expressed, contrary to his usual habits, the delight which he felt at his increasing prosperity. He was also more frequently absent from his warehouse and business than usual; but notwithstanding these trifling changes, neither his family, friends, nor neighbours suspected the existence of mental disorder. One day, whilst he was from home, a travelling merchant brought to his house two pictures, and asked fifty louis for them, which he said was the price agreed upon by a very respectable gentleman, who had given his name and address. His sons sent away both the pictures and the seller. On his return,

* Bingham on "Mental Diseases," pp. 137–8.

the father did not mention his purchase, but the children began the conversation, alluding to the roguery of the merchant, and their refusal to pay him. The father became very angry, asserting that the pictures were very beautiful, were not dear, and that he was determined to purchase them. In the evening, the dispute becoming warmer, he flew into a passion, uttered threats, and at last became *delirious*. On the next day he was confided to Esquirol's care. The children, frightened at their father's illness, and alarmed at the purchase which he had made, looked through the accounts, and great was their astonishment at seeing the bad state of his books — the numerous blanks which they presented, and the immense deficiency there was of cash. This morbid irregularity had existed for more than six months. Had this discussion respecting the pictures not taken place, and his actual state of mind been detected, one of the most honourable mercantile houses in France would, in a few days, have been seriously and fatally compromised; for a bill of exchange of a considerable amount had become due, and no means had been taken to provide for its payment.*

A gentleman, respecting whom I was consulted, made purchases of stock to the extent of £100,000, when clearly not in a condition of mind to manage his own affairs, but not yet sufficiently insane to justify the family in interfering with his free agency by preventing him from going regularly to his counting-house. Fortunately a near relative was informed of the nature of the monetary transaction alluded to soon after its being completed, and was enabled, after representing to the parties the true state of the gentleman's mind, to cancel the investment, but not without the sacrifice of a considerable sum of money.

I was requested to visit a clergyman residing in the

* Esquirol on "The Illusions of the Insane," p. 34.

north of England, whose condition of mind had caused his family great anxiety. I found him unquestionably insane. His derangement was marked by clearly-manifested delusions. His conduct, for many years previously to any symptom of mental aberration being noticed, had been characterised by actions quite irreconcilable with the supposition of the existence of perfect soundness of intellect. He had, for four or five years before his state of disordered intellect became obvious to those constantly associated with him, ordered a number of valuable trees to be cut down on the estate without his being able to offer a sane justification for such an outrageous proceeding. He had also sold a quantity of valuable land adjoining his glebe that had belonged to the family for many generations (unfortunately not entailed), and which he never would have parted with had he been in a state of mind to enable him to form a sane judgment of the character of the proceedings. At this time, and for many years subsequently, his conduct was marked by great eccentricity and caprice. Nevertheless, he did not exhibit in his conversation any symptom of mental derangement or impairment, mixed as usual with society, attended the annual visitations of his diocesan, wrote and preached capital sermons, attended faithfully and zealously to all his parish duties at a time when many of his actions were clearly the offspring of a mind decidedly off its balance, if not closely verging upon actual insanity.

Dr Gratiolet, after relating several cases illustrative of the influence of temporary physical irritation on the intellectual ideas and moral emotions, remarks—"What ferocious duellists, what assassins have perhaps owed their cruelty to similar causes. How great the interest to physiology of attentive *autopsies* of those who have been executed, and who have been urged to crime by inexplicable

impulsions. There also is doubtlessly found the reason of those suicides which nothing explains, if it be not this profound and indefinite inquietude, which gives to every incident of life, to conditions of perfect happiness, a sombre colour and repulsive aspect. In reality, let us conceive an inquietude pushed to its acme. An unfortunate individual feels vaguely the presence of an enemy. This inquietude, of which the object is not defined, demands explanation; the anger that it excites requires to be satisfied. Who has not, in certain hours of indefinable anguish, desired an adversary to combat, and sought an object for his blind fury? In these terrible moments anything serves. One tears his vestments; another kills the dog that caresses him; while a third cuts the throat of a passer-by of whom the dress displeases him, and who by chance has regarded him. Here is, without doubt, the point of departure of a great number of fixed ideas and delirious impulses. These ideas, when they do not incite immediately to a fatal result, are transformed, and very often change their object, so that we can consider them as the result of a general tendency which seeks an end, and often attains it by chance.*

Let us charitably hope that many extraordinary and apparently unreasonable and motiveless acts of brutality, violence, cruelty, passion, and crime, that appear to result from trifling and inadequate exciting causes acting upon congenitally weak and badly-organised brains, may have their origin in some form of cerebral disease, concealed or unrecognised disorder of the mind. Is not the juridical history of all countries fraught with such illustrations?

Do not let it be imagined that I have the least desire to screen the criminal from the just and *legal* punishment

* "Anatomie comparée du Système Nerveux considéré dans ses Rapports avec l'Intelligence." Par Fr. Leuret et P. Gratiolet. Tome ii. Par M. P. Gratiolet. Paris, 1839, 1857.

awarded for flagrant violations of the law, or that I am disposed to raise a false issue, encourage morbid sentiments or maudlin sympathies in his favour. Such are not my views. Whilst desiring to urge everything that can *scientifically* be said in defence of the culprit, I am not unmindful of what is necessary for the vindication of the law, the safety of society, as well as what is righteously due to those whom the criminal has so grievously injured.

But is there nothing, I ask, to be advanced in the way of apology for the poor, wretched, heart-broken lunatic, irresistibly driven by a diseased brain and a perverted imagination to acts of murderous violence whilst under the overwhelming dominion of a fearful illusion of the senses and hallucination of the intellect, destroying the power of healthy reason, and paralysing all freedom of the will? Poor Cowper, himself the subject of a severe form of hypochondriasis, when writing a congratulory letter to a friend who had recently recovered from an attack of severe bodily disease, says, "Your illness has indeed been a sad one, causing, no doubt, great distress to yourself, and considerable anxiety to your relations and friends; but, oh! what are your bodily sufferings, acute as they undoubtedly were, to the unceasing mental torture I suffer from a fever of the mind?" I am afraid in our sympathy (natural though it be) for the murdered victim, and in our feelings of deep compassion for those who survive to bitterly bemoan his loss, we are occasionally disposed to ignore the extent of acutely-agonising suffering the lunatic often experiences before he yields to the delirious impulse, and commits a crime opposed to the strongest instincts of his nature.

In homicidal insanity, the victim is frequently related to the lunatic by the closest, fondest, and dearest ties. A morbid desire to shed human blood (caused by particular

affections of the brain), from a conviction that something dreadful *must* be done to relieve the mind of its terrible pressure, occasionally overpowers all feeling of fraternity and love. "It *must* be done—it *shall* be done; blood must be shed, my dear wife—my darling infant must perish by my own hand before this mental anguish can pass away." Such is the sad state of morbid feelings often exhibited by the insane.

The lunatic, impelled to destroy life by a fearful delusion which has obtained a complete ascendancy over his reason, imagines that he hears a voice authoritatively commanding him to murder himself and others. He struggles, successfully for a time, with these appalling, insane suggestions; but, alas! (the *cerebral* disorder extending) they eventually master him; and, when in a state of mind utterly extinguishing his knowledge of right and wrong, effectually paralysing the strongest natural instincts, and entirely destroying all power of self-control, he rushes blindly, unconsciously, and irresistibly, in the frenzy of wild and delirious despair, on himself or his unhappy victim. In this condition of intellect he is no more responsible for the crime he commits than if he were a ferocious bull in the arena, goaded on to deeds of blood and violence by the ingeniously-practised irritation of the well-trained and courageous *torreador*.

Far be it from me, in any sentiments of compassion I express for the unhappy lunatic doomed to an ignominious death, to be otherwise than keenly alive to the wailings of distress proceeding from the once happy dwelling made desolate by the ruthless hand of the murderer. Sorry should I be if I could ever ignore the terrible sufferings so often entailed by crime on the widow's hearth and the orphan's home. The fearful results—the sad consequences of crime—should never be lost sight of whilst

endeavouring, by carefully considered scientific principles of medical psychology, to shield the criminal, under the plea of insanity, from the legal penalties attached to his act; but no amount of public odium to which the witness may be exposed—no extent of scurrilous abuse which may be levelled against him, should, even to the weight of a hair, influence or deter the medical jurist when called upon to give evidence in cases of alleged criminal insanity, in the steady, fearless, and unflinching discharge of one of the most important, sacred, and solemn functions that can be delegated to a citizen of the state.

> "Ambiguæ si quando citabere testis
> Incertæque rei; Phalaris licet imperet, ut sis
> Falsus, et admoto dictet perjuria tauro,
> Summum crede nefas animam præferre pudori,
> Et propter vitam vivendi perdere causas."
>
> *Juven.* Sat. 8, v. 80.

The position of the medical witness, even under the most favourable circumstances, is perplexing, anxious, and embarrassing. The character of his education, his habits of thought, philosophic cast of mind, constant and earnest search after truth, as well as the nature of his daily professional occupation, ill adapt him for contending in the forensic arena with the knowledge, ability, and subtle acumen which are so often there brought to bear against those little skilled in the art of legal fence. Occasionally he has to give testimony in relation to matters of *fact;* to describe *physical* states, phenomena cognisant to sense. For example: in cases of sudden death from supposed poisoning, the toxicologist has certain well-defined scientific data to guide him to a right conclusion; he is in possession of well-recognised tests, which bring him almost unerringly to a sound and safe deduction; his evidence has reference more to an *exact* than to a specula-

tive—to a certain than to an uncertain science; his province (when in court) is simply to record the results at which, after a careful chemical analysis, he has arrived. The questions involved in the inquiry, whether death under suspicious circumstances was natural, self-inflicted, or the effect of extraneous violence, are not *necessarily* intricate, obscure, or difficult of satisfactory solution. How different, however, is the position of the witness when his mind is brought to the consideration of questions connected with morbid mental phenomena? In these exalted inquiries he has no fixed or certain test, infallible standard, well-defined rules or principles of exact science to aid him; no beacon to protect him from the rocks and quicksands which beset his course, chart to refer to in times of difficulty, compass to guide him in the hour of danger, or harbour of refuge into which he can run his fragile vessel when the tempest is howling and destruction impending.

The obstacles with which a medico-legal witness has to contend are often of a grave and serious character. He has to deal with phenomena of the essence or intimate nature of which he knows absolutely nothing. It is his duty to elucidate principles of belief, unravel motives of action, explain erratic conduct the most anomalous and extraordinary; he has to trace the line which separates passion—subtle and shifting transformations of wild, ungovernable, and impetuous passion—from the excitement of mania, and the morbid emotions incidental to the minor forms of diseased mind; to sketch the varying frontier, the nice and shadowy distinctions which separate *lunacy* from *malignity*, madness from brutality; to point out where *folly* merges into *mental derangement*, where *responsibility* terminates and *irresponsibility* commences; to distinguish between *eccentricity* and *insanity*, *crime* and *alienation* of

mind, *vice* and *mental* derangement, between the delusions of the lunatic and false conclusions, the illogical deductions, the unphilosophical reasoning of men of sound intellect and of rational understanding, to separate the normal rhapsodies of the healthy imagination, the Arcadian illusions of the poet from those "thick-coming fancies," the products — the well-recognised indisputable symptoms—of a mind thrown off its healthy balance by *cerebral* disease.

There is no possibility of the medical expert placing the diseased mental element submitted to his critical examination in a psychological crucible or test-tube; he cannot avail himself in these delicate investigations of the aid of the microscope; there is no mode by which he can penetrate behind the curtain, or tear aside the veil that divides the *material* from the *immaterial, mind* from *matter;* there is no possibility of his obtaining access to that mysterious chamber where the spiritual portion of our nature is elaborated; there is no gauge or square rule by which the mental analyst can ascertain in all cases, with any approach to chemical or mathematical accuracy, an accurate idea of the actual condition of the mind when apparently under the cloud of disease. In the elucidation of these points he is in a great measure left to his unaided sense and uncertain guidance of his deceptive experience and often fallible judgment.

He enters the witness-box charged, under the solemn sanction of an oath, to decide the important questions as to the legal and moral responsibility of our fellow-men. In capital cases he is called upon to declare whether the criminal was insane when he committed the act; whether by disordered mind he was reduced to a state of legal and moral irresponsibility. In other cases equally important matters are submitted to his adjudication, involving

points relative to the competency of persons to make testamentary dispositions of property, or manage during life themselves and their affairs. In the former case the life of a fellow-creature is made contingent upon the evidence of those deputed to examine and delegated with the responsibility of recording their medico-legal opinion as to his state of mind; in the latter instance the witness is expected to depose to the competency of certain persons to exercise the otherwise inalienable privilege of disposing of property agreeably to their own notions of the law of inheritance and conceptions of what is just; and, in the third case, it is his province to decide, not upon the solemn question of life or death, but whether a fellow-citizen is in a condition of mind to justify the law in alienating from him his *civil* rights, depriving him of the control of his person and affairs, and destroying by a legal declaration of lunacy his free and independent agency. In the first case it is the imperative duty of the expert to prevent, if possible, *actual* death, one of *moral* ignominy and of *physical* suffering; in the latter instance it is left for him to pronounce whether legal dissolution is to be recorded against the party whose mind is the subject of medico-judicial inquiry. In the former case it may happily be in his power to rescue a fellow-creature from the scaffold, and in the latter instance he may, by his evidence, have the not less pleasing gratification of shielding him from the expensive, but nevertheless, under proper circumstances, humane guardianship of the Court of Chancery.

Under circumstances like those I have now cursorily sketched the medical jurist has, as may readily be conceived, to contend with serious impediments. He has to encounter the prejudices and ignorance of those by whom he is surrounded—of those who, if otherwise enlightened,

are too disposed to forget that the mental conditions relative to which he has to speak are the exceptions to the general laws by which human nature is guided, and that they can only be elucidated by facts of an extraordinary character, which rarely present themselves in the state of society in which an individual exists. In attempting to give the court before which he is subpœnaed a lucid statement of his opinion, based upon actual experience, long-continued observation, reflection, and patient study, the views thus expounded are too often considered either as the offspring of a false philosophy, a mawkish sensibility, a distorted science, the affectation of a learned and metaphysical subtlety, or as the sordid result of the paltry *honorarium* awarded to him for the expression of a professional opinion.

In cases of alleged insanity, the expert is occasionally compelled, when elucidating, in courts of law, the phenomena of mental derangement, to enunciate principles as a pioneer of truth, in advance of the knowledge possessed by those who sometimes examine and often severely, unjustly criticise and calumniate him. When giving evidence on scientific points, he is occasionally, and unavoidably obliged in the expression of his opinions, to go counter to what is termed the "generally received" notions on the subject of insanity.* If it be his desire, in imitation of certain *dilettanti* psychologists, to sail with the popular breeze, and

* Dr Whewell remarks, in his "History of the Inductive Sciences," "that the general voice of mankind, which may often serve as a guide, because it rarely errs widely or permanently in its estimate of those who are prominent in public life, is of little value when it speaks of things belonging to the region of exact science." The opinion of the majority upon questions, within the comprehension and grasp of men of ordinary intelligence, and natural sagacity, is entitled to profound deference and respect. It may be, and often is, right. But does not history satisfactorily establish, that what in common parlance is designated as the "generally-received opinion" is, occasionally, very remote from the truth?

"Interdum vulgus rectum videt, est ubi peccat."—*Hor.*

ever eager to pander to the opinions of the ignorant, interested, and vulgar section of the public, by making their views of insanity square with those ordinarily entertained by the non-professional, psychologically uneducated, and medically inexperienced part of the community, his task is a facile, and it may be a lucrative one ; but if he forms a just and honourable estimate of his position as a lover and cultivator of science, and entertains a philosophic appreciation of his responsible vocation as a citizen of the state, physician, and medical jurist, and is resolved not to yield one inch of ground in his honest exposition of scientific truth in deference to popular fallacy, or in slavish obedience to ignorant abuse and noisy clamour, he must expect to pay the penalties attaching to his exhibition of moral courage, and firm and unflinching adherence to the path of public and professional duty. He may be maligned, misrepresented, and traduced for adopting this honourable principle of action, but the enlightened truth he has enunciated must eventually triumph over all difficulties temporarily obstructing its progress.

We have recourse to able, skilled, and scientific witnesses to elucidate difficult and disputed points in engineering, architecture, mechanics, navigation, feigned writing, chemistry, and many of the exact as well as speculative sciences ; and upon what ground should we repudiate the testimony of learned and experienced men practically acquainted with the phenomena of insanity? Why speak contemptuously and disparagingly of the opinions of an educated and experienced class of *specialists,* when requested to solve knotty and recondite questions connected with alleged states of mental alienation? Is insanity so obviously apparent, glaringly self-evident, and palpably on the surface, that medically uneducated and inexperienced persons are competent immediately to detect its existence without being

assisted in their judgment by the testimony of men whose lives have been devoted to its careful study? Does a knowledge of the morbid phenomena of mind (the most profound and abstruse of all subjects) come by intuition, and is it dependent upon the *minimum* amount of time that has been applied to their investigation? Is the competency to pronounce a sound scientific and trustworthy opinion on subtle forms of disordered thought in exact correspondence with the smallest extent of opportunity afforded of becoming practically acquainted with their phenomena? Such, I fear, is the too commonly received view of the matter. Agreeably to vulgar and popular notions, a person alleged to be insane is expected to exhibit all the usual stereotyped artistic, poetic, and melodramatic characteristics of madness. If a genuine lunatic, she must resemble poor Ophelia, and have pieces of straw permeating various parts of her hair, and tied round the waist, and show her insanity by singing plaintively and incoherently snatches of melody. No one would be considered as *bonâ fide* insane that did not foam at the mouth, gnash the teeth, tear the hair, clench the fist, roll the eyes in a "fine frenzy," talk gibberish, rave, and converse of being possessed by the "foul fiend, as Poor Tom in "King Lear" is heard to do when acting the part of the madman on the stage. If such were the ordinary characteristic manifestations of the forms of insanity with which juries and judges have generally to deal (in civil as well as in criminal courts), I quite concur in the opinion, inferentially expressed, that the evidence of experts is quite superfluous, and may safely be dispensed with. But this is not the type of insanity usually submitted to legal adjudication. The annals of Jurisprudence establish beyond a doubt that the criminal and homicidal lunatic almost invariably belongs to the class of quiet, cunning, subtle, clever, and what Esquirol terms "*reasoning*" madmen. How

rare it is to see a person labouring under *acute* derangement of mind tried for a capital crime. In many criminal cases the lunatic, although suffering from a dangerous and homicidal form of mental derangement, has sufficient self-possession and control over his disordered thoughts to converse and comport himself like a person in healthy possession of his reasoning powers. This is a type of mental disease that so often deceives the judge and puzzles the jury. Subtle cases, however, of lunacy present but few difficulties to the really practical and experienced physician thoroughly conversant with the phenomena of alienation of mind, and well acquainted with the physiognomy and idiosyncrasies of the insane. He alone is competent, scientifically and accurately, to test the more obscure forms of mental derangement—he, above all others, is best able to discover, unmask, and bring to light the latent disease; and, therefore, no course could be more fatal to the administration of justice, when analysing judicially such recondite conditions of mental alienation, than to ignore the valuable co-operation of men of admitted science, observation, and experience. The coarser and more demonstrative symptoms of insanity are obviously patent to men of common intelligence and ordinary knowledge; but the less manifested, more obscure, and *hidden* types of mental disease require, for their satisfactory elucidation, an intimate and profound acquaintance with the physiology, as well as pathology, of the human mind. Without the aid of the testimony of experienced witnesses juries are much more likely to arrive at a wrong than a right conclusion. It is irrational to expect any other result, when we consider the grave and specific difficulties with which they have generally to combat, when subtle and disputed forms of criminal insanity are submitted to their consideration and decision.*

* If an expert propounds in a court of law an opinion in relation to an

I do not venture to reconcile with known and admitted facts the singular inconsistencies pervading the public mind on the subject of insanity. A man commits suicide. At the inquest it is established that previously to the catastrophe he was observed to have been odd in his manner and depressed in spirits. These symptoms are suffi-

alleged case of criminal insanity, in strict conformity with the experience of the great bulk of men practically engaged in the study and treatment of the disease, and gives expression to views in harmony with the principles of enlightened psychological science, he is exposed to the imputation of entertaining and inculcating dangerous, and, forsooth, "crotchety" theories. This insinuation is often made by ignorant, presumptuous, and conceited men, just as competent to appreciate the more obscure, recondite, and subtle forms of deranged thought, as the common house, sign-painter, or scene-dauber would be to estimate, to their full artistic extent, the delicate and beautiful colouring, shading, and tints of a Raphael, Claude, &c.

Whilst considering this subject, perhaps it would not be deemed irrelevant if I were to correct a gross misrepresentation of an opinion I expressed when attempting to rescue from the gallows a poor idiot of the name of Atkinson, who was tried for murder at the York Assizes in 1858. It was reported, and generally credited, that I was guilty of the imbecility of declaring, when in the witness-box, that I made it a rule never to give testimony in support of the sanity of any man who had committed murder. If I had given expression at the time to so "monstrous" an absurdity, I certainly should be reduced to the humiliating position of believing that I was much farther infected with idiocy than the poor demented criminal whose life I was then endeavouring, by my evidence, to save.

The statement I made on the occasion referred to, and which gave rise to so false an interpretation, was in substance as follows:—I remarked, that if a man were accused and tried for a murder committed some time previously, and the plea of insanity were urged in his defence, upon what was conceived to be the strong and *bonâ fide* evidence of *competent eye-witnesses, practically acquainted with the prisoner's state of mind at the time he committed the crime*, I should consider it a duty to hesitate in pronouncing in a court of law (the life of the prisoner being dependent upon *my* evidence) a *speculative* opinion of his perfect *sanity* of mind and moral responsibility, in direct opposition to the *positive* testimony of others, basing my conclusions on the examination I had made of the prisoner's state of intellect some time after the perpetration of the imputed crime, and immediately previously to his trial.

cient to satisfy the jury as to his irresponsible state of mind, and a verdict of "temporary insanity" is without hesitation, in many instances, properly returned. It is notorious that in these cases juries eagerly avail themselves of the slightest evidence of mental derangement, and appear pleased to find that they have a fair and reasonable excuse for a verdict of lunacy. The same jury, however, empannelled to try a similar issue before another tribunal, the question raised not being the insanity of the self-murderer, but the soundness of mind and capacity of a person to manage himself and his property, will perseveringly refuse to recognise the existence of insanity and incapacity, even if established by the clearest, most conclusive medical and general testimony. The faintest and *minimum* amount of proof, in the former case, immediately determines the verdict of the jury; the *maximum* degree of evidence adduced before a different court, though generally required, is often set aside as totally unworthy of regard. The jury, in the one case, is most anxious to protect the memory of the *suicide* from the imputation of *sanity;* and in the second instance (totally ignorant of the extent of desolation and misery that are, alas! so often entailed upon families by an obstinate determination not to recognise the existence of insanity), they stretch a point to shield the subject of inquiry from what is unphilosophically termed the *stigma* of mental derangement. If the evidence in the former case, so demonstratively conclusive to the mind of the coroner's jury of the presence of insanity, were adduced to establish unsoundness of mind at a commission "*De Lunatico Inquirendo,*" it would bring severe censure and reproach upon those who attempted to obtain a verdict upon such inadequate testimony.

It may be affirmed that these two illustrations are essentially different in their principal features. In the former

case, no possible harm can accrue to the unhappy man (whatever may be the effect of the suicide upon his family) by a verdict of temporary insanity, even if the jury were to come to a wrong conclusion; but, in the latter case, it is alleged a person wrongly pronounced insane may be seriously injured by being deprived of the control of his person and considered incapable of managing his own affairs.

The point at issue is undoubtedly open to this grave objection; but, on the other hand (whilst advising the exercise of extreme caution before recording a verdict of insanity), I am bound to consider the serious and fatal mischief that might follow an inconsiderate and hasty repudiation, on the part of the jury, of *un*soundness of mind.

If a lunatic be discharged from supervision through the ignorance or mistaken kindness of the jury, the most disastrous consequences will in all probability ensue from his being permitted, when in a state of mental derangement, to deal testamentarily and otherwise with his property. How often have families been brought to beggary and ruin by the insane proceedings of persons thus prematurely and improperly liberated from all control whilst in a state of mind utterly unfitting them either to understand or to transact important matters of business. Wills and other important deeds have been executed under such conditions of disordered and enfeebled mind, and large possessions have been cruelly alienated from the heir-at-law, and bequeathed to unprincipled and designing men, by persons obviously incompetent to exercise testamentary capacity. Juries empannelled to try the question of mental soundness at a Commission of Lunacy, occasionally ignore all evidence of insanity and incapacity, unless it be of such a character as to clearly prove the person to be under the influence of positive delusions or in a state of imbecility. A jury, as ordinarily constituted, is in-

competent to estimate the delicate colouring, tints, and shades of the ever-varying phases and degrees of disordered and unsound mind. It often requires the well-trained and educated eye of the accomplished medical artist to appreciate the subtle manifestations of the more obscure and latent forms of mental alienation. A person whose derangement of intellect is not prominently manifested has therefore a reasonable chance of obtaining a verdict in his favour, and this probability is very much enhanced if he has been fortunate enough to retain for his defence the services of an astute solicitor, and an eloquent and sagacious advocate, fully competent to deal skilfully and successfully with the facts of the case, presenting them in a most convincing light to the jury. It is not my province to censure the lawyer for doing his best to establish the sanity of his client, even in the teeth of evidence clearly proving him to be insane.* My object in these observations is simply to direct professional attention to the serious and irremediable injury that is likely to accrue, un-

* Much vulgar abuse has been directed against the members of the legal profession for the assumed readiness they are alleged to exhibit in accepting any brief that may be presented to them, irrespectively of the actual and *bonâ fide* merits of the case they are retained to advocate. The counsel is presumed to know nothing of the matter to be litigated except what is embodied in his instructions. With these alone he has to deal. It is his duty to act upon such instructions, and to do his best to conduct the case entrusted to him in strict conformity with the recognised rules of evidence. It is not a part of his vocation to sit in judgment upon the facts of the case placed before him; neither is he called upon to throw up his brief should he perceive in the course of the trial that (as far as the justice of the case is concerned) he is unfortunately on the wrong side, and that the evidence is telling against the interests of the party he is engaged to defend. Dr Johnson has placed this matter in a correct light. In answer to a question put to him by Boswell, in relation to the point mooted, he remarked, that "a lawyer has no business with the justice or injustice of the cause he undertakes, unless his client asks his opinion, and then he is bound to give it honestly. The justice or injustice of the cause is to be decided by the judge."

consciously, to the lunatic himself, as well as to the interests of those nearly related to and dependent upon him, by an erroneous decision as to the state of his mind. A man having at command and under his exclusive control a large amount of property, is, upon clear and undoubted evidence, alleged to be insane. It may be the wife, son, or daughter, who, recognising in the head of the family a state of mischievous mental unsoundness, has, with a view of saving him as well as his family from beggary and ruin, mooted the question of his mental capacity. The supposed lunatic, unless actually deranged and fatuous, indignantly disclaims the imputation (a common occurrence in such cases), exhibiting, at the time, what appears to be natural irritation against those with whom the allegation has originated. The case eventually becomes a matter of judicial inquiry. The jury sworn to try the issue, confounded by the eloquent and impassioned appeals of counsel, confused by the frequently-conflicting character of the general as well as medical evidence, puzzled by the apparent rationality of the party affirmed to be afflicted with mental alienation, are unable to come to an unanimous decision as to his sanity. Nevertheless, if there be a majority of the jury in his favour, he is fully entitled to their verdict, and, being declared of sound mind, is consequently discharged from all supervision and control, and placed *legally* in a position to deal as he pleases with his person and property.* It is

* According to the present state of the law, there must be at a commission *De Lunatico* a majority of twelve of the jury before a verdict either way can be received by the Master. It often happens that the jury in number amounts to fifteen, twenty, and three-and-twenty. In many cases there are often twelve jurymen for the sanity, and eight or ten entertaining strong opinions adverse to a verdict of mental soundness. Under these circumstances, the reader will be able to appreciate the facilities that exist for persons, obviously insane, escaping through such an ordeal. In the celebrated "Windham case," seven of the jury were for a verdict of unsoundness of mind.

not difficult to conceive the course which a person, who has been able cunningly and cleverly to mask from the eyes of a section of the jury all evidence of his mental derangement, might be induced to take after being so liberated, and to what extent the interests of his family would be fatally involved by his testamentary as well as other acts executed under the influence of *legally* undetected insanity, directed towards those who, influenced by the kindest and most honourable motives, have incurred his severe displeasure by initiating proceedings in the Court of Chancery with a view of enforcing (in reality for the man's own advantage) a statute of lunacy against him. It would be useless, if the claims of relationship were to be ignored in a will made soon after the unsuccessful execution of the commission by a person smarting under what he conceives to be an unjust imputation of insanity, to dispute its validity upon the death of the testator. If such an attempt were made, by raising the plea of testamentary incapacity, the verdict of sanity recorded by the jury at the Commission of Lunacy would, except in extreme and exceptional cases, be viewed as valid and conclusive evidence in favour of the will; thus misery and destitution of the acutest kind would be entailed on the surviving relatives of the unhappy man by their inability to interfere with a disposition of property made when the testator was manifestly incapable of exercising, in legal phraseology, a sane memory, judgment, and reflection.

I would refer to another anomaly in connexion with the state of the law of lunacy, as well as to the condition of public opinion, in relation to this interesting subject. A man commits a murder. He is tried for the crime. The plea of insanity is raised in his defence, upon what is conceived to be satisfactory evidence of the existence of mental derangement at the time of the murder. The attempt thus

made to protect the criminal immediately rouses the public indignation. Such an excuse is not in many instances listened to, and the unfortunate medical witnesses who have been called upon to exercise an important and often thankless duty in support of the plea, are exposed, for giving an honest expression of opinion, to the most unmeasured ridicule and vituperation.

In defending the memory of the suicide from the disgrace that would accompany a verdict of *felo-de-se,* the evidence of the medical man *proving insanity* is regarded with great respect and treated with profound deference; but in his effort to rescue a lunatic from the agonies of a painful death upon the scaffold, on evidence much stronger than was adduced before the previously-mentioned court, the expert is exposed to unmitigated abuse. Instead of being considered as an angel of mercy, engaged in the exercise of a holy and righteous mission, he is viewed with suspicion, and often treated with contumely, as if he were attempting to *sacrifice,* instead of to *save* human life.

Again, the attempt to prove sanity and mental capacity at a *Commission of Lunacy,* with the object of preserving intact the liberty of the subject, and establishing his right to an unfettered management of his property, is applauded to the very echo; but any endeavour to excuse, on the plea of insanity, the crime of some unhappy wretch alleged to be mentally irresponsible, in order to rescue him from penal servitude or the hands of the public executioner, is denounced, in unqualified language, as a most monstrous, unjustifiable, and iniquitous interference with the course of justice. The excuse of insanity will not in many cases, under these circumstances, be tolerated by a portion of the press. The public mind is violently shocked at the commission of a horrible and brutal murder.

The act is viewed in the abstract as one of great and barbarous atrocity, apart altogether from all its concomitant extenuating medico-psychological considerations. The cry is raised for vengeance. The shout is, "An eye for an eye!" "a tooth for a tooth!" "blood for blood!" forgetting, in the paroxysm of indignant emotion and frenzy of excited feeling engendered by the contemplation of a dreadful violation of the majesty of the law, that JUSTICE must ever be tempered with that DIVINE MERCY which sanctifies and enshrines

"The thronèd monarch better than his crown,
* * * * *
And is the Attribute of God Himself."

CHAPTER VII.

THE STAGE OF CONSCIOUSNESS.

WERE we to scrutinise the mysteries of the inner mental life, and analyse the nature of those terrible conceptions that occasionally throw their phantasmal shade across the anxious and troubled mind, what a melancholy, degrading, and profoundly humiliating revelation most men would have to make of the dark corners, secret recesses, and hidden crevices of the human heart. If this self-examination were faithfully and honestly executed, it would cause the best and fairest of God's creatures to shrink back from the contemplation of their own most secret thoughts.*

* A neglect of the practice of self-inspection and self-interrogation is said to be one of the most serious imperfections, moral and intellectual, of the present system of mental discipline and education. The defect is not confined, it is alleged, to listless, vacant persons, who permit life to glide over them amidst frivolities and waking dreams, but is perceived among those who intensely and actively employ themselves with objects external to themselves. An able moral philosopher observes, when alluding to this subject, "that, after a certain period of life, few have the hardihood sternly to look within; for a high degree of moral courage is required to face the disclosure which awaits the mind when it is thus turned inwards upon itself—a disclosure, it may be, of the result of years and years that have passed over it in listless inactivity, which yields nothing to reflection but an empty void; or in the eager pursuit of objects which are seen to be worthless, or in the acquirement of habits which are felt to be destructive of the health of the mind—the disclosure, it may be, of important duties neglected and important pursuits overlooked, and the conviction that life is drawing to a close, while its great business is yet to begin. Few have moral courage to meet this disclosure; and when it

Philosophers intimately acquainted with the anatomy of the human mind have often asked, Who has not occasionally had a demon pursuing with remorseless impetuosity his every footstep, suggesting to his ever-active and often morbidly-disturbed and perverted imagination the commission of some dark deed of crime, from the conception of which he has at the time recoiled with horror? Is there any mind, pure and untainted, which has not yielded, when the reason and moral sense have been transiently paralysed and God's grace ceases to exercise an influence over the heart, to the seduction of impure thought, lingered with apparent pleasure on the contemplation of physically unchaste images, or delighted in a fascinating dalliance with criminal thoughts? Who has not conceived how easily he might with his own hand "shuffle off this mortal coil," and penetrate into the dark and mysterious secrets of futurity? What heart has been at all times free from malevolent passion, revengeful emotion, lustful feeling, unnatural, and, alas! devilish impulses? Is not every bosom polluted by a dark, leprous spot, corroding ulcer, or portion of moral gangrene? Does there not cling to every mind some melancholy reminiscence of the past, which throws at times a sombre tinge over the chequered path of life? We may flatter our pharisaical vanity and human pride by affirming that we are exempt from these melancholy

is met with an attention in some degree adequate to its supreme interest, the impressions which it yields are encountered by the force of confirmed moral habits, which seem to claim every faculty and feeling of the mind as theirs by hopeless bondage. Hence the supreme importance of cultivating in early life the habit of looking within, the practice of rigidly questioning ourselves as to what we are, and what we are doing—what are our leading pursuits, and what our mental habits; what are our plans and prospects for life, and what influence over the whole of our moral discipline have the solemn realities of a life which is to come."—*Dr Abercrombie on the Culture and Discipline of the Mind.*

conditions of moral suffering and sad states of mental infirmity; but, alas! we should be closing our eyes to the truth if we were to ignore the existence of such, thank God, perhaps only temporary, paroxysmal, and evanescent conditions of unhealthy thought, and phases of passion which occasionally have been known to cast their withering influence and death-like shadow over mind, blighting, saddening, and often crushing the best, kindest, and noblest of human natures.

"Who can tell," says a learned divine, "all the windings, turnings, depths, hollowness, and dark corners of the mind of man? He who enters upon this scrutiny enters into a labyrinth or a wilderness, where he has no guide but chance or industry to direct his inquiries, or to put an end to his search. It is a wilderness in which a man may wander more than forty years, and through which few have passed to the promised land." *

For a considerable period before the mind has lost its equilibrium or is appreciably disordered, the patient is under the influence of certain vague apprehensions, undefinable misgivings, and anxious suspicions as to the *sane* character of his emotions, healthy condition of his ideas, and normal state of his instincts. He detects himself, when unobserved, occasionally asking, Can my impressions be healthy?† Is there any good reason for my entertaining these strange and singular feelings? Why am I averse to *this* person's presence, and why do I feel a

* Dr South.

† "I am in tolerable health, but *low* to a degree of which I am ashamed, without being able to help it. This attack has been coming on for some time. If I had been better aware of its nature, I might have guarded against its approach. As it is, I am quite under the dominion of very tormenting feelings. It is in vain that my reason tells me that the view I take of any unpleasant circumstances in my situation is exaggerated. Anxiety, regret for the past, apprehensive uneasiness as to my future life, have seized upon me as their prey. I dread solitude; for society I am unfit; and every error of which I have been

repugnance to and shun the society of *that* individual? Am I in a sound state of mind? Are unnatural ideas and strange impulses like those suggesting themselves to and influencing my mind consistent with a healthy condition of thought and a sane state of the intellect? Am I in possession of my senses? Is this state of feeling, condition of weakened volition, these strange inclinations that appear blindly and irresistibly to drive me to the commission of overt acts, so opposed to my natural character and antagonistic to my sense and knowledge of what is right and wrong; are these flittings of sombre melancholy and scintillations of perverted thought so contrary to my nature and adverse to every principle of my being, the dawnings, obscure, faint tints, shadowy outline of approaching insanity? Am I mad, or *becoming* so? frantically interrogates the unhappy person subject to these incipient symptoms of disordered thought.* Such sad doubts,

guilty in life stands constantly before my eyes. I am ashamed of what I feel when I recollect how much prosperity I enjoy; but it seems as if I had been suddenly transplanted into some horrible region beyond the bounds of reason or of comfort. Now and then I enjoy a few hours of respite, but this is my general condition. It is a dismal contrast, for you well remember that I was naturally gay and cheerful."—*Letters of the Earl of Dudley to the Bishop of Llandaff.* 1840. Pp. 323–350.

* In a conversation between the stoic *Damasippus* and *Horace* (Sat. iii. lib. ii.), the poet asks the former, "In what kind of folly do you think my madness consists?"

"Qua me stultitiâ (quoniam non est genus unum),
Insanire putas?"

and adds—

"Ego nam videor mihi sanus."

"Quid?" responds the Stoic,

"Caput abscissum demens cum portat Agave
Gnati infelicis,"

(and then immediately asks),

"Sibi tum furiosa videtur?"

It would thus appear that this illustrious poet had a clear conception of the phase of conscious insanity of which I am now speaking.

fearful apprehensions, mysterious inexplicable forebodings, and distressing misgivings as to the healthy condition of the mind, often induce the heart-broken sufferer, convulsed with pain and choking with anguish, prayerfully, and in accents of wild and frenzied despair, to ejaculate with King Lear—

> "O, let me not be mad, not mad, sweet Heaven!
> Keep me in temper; I would not be mad!"

This agonising consciousness of the presence of morbid and insane ideas, painful recognition of the first approaches and foreshadowings of insanity, are so acute, and the mental misery induced so crushing and overwhelming, that relief from these terrible sufferings is occasionally sought for in suicide.

In the incipient stage of insanity the patient is fully sensible of entertaining exaggerated and unnatural impressions; is acutely conscious of the mind dwelling morbidly and sometimes irresistibly upon certain trains of absurd, unhealthy, and it may be very *impure* thought; he painfully recognises the fact that insane conceptions are struggling to master his reason, obtain an ascendancy over his judgment, an abnormal influence and control over his passions and the subjugation of his instincts. In some cases (and this is a distressing and dangerous type of insanity) he is impelled (why and wherefore he knows not) to commit suicide, sacrifice the lives of those related to him by the closest ties of relationship, and give utterance to blasphemous, revolting, and impure expressions. He finds it occasionally extremely difficult and almost impossible to dismiss from the mind and keep in subjection these morbid impulses to acts of homicidal and suicidal violence, or to conquer the insane desire to clothe in grossly obscene language conceptions from the contem-

plation of which his delicate and sensitive nature would, when unclouded by disease, have instinctively shrunk with horror, loathing, and disgust.

A gentleman of great accomplishments, high order of intellect, known literary reputation, and of admitted personal worth, had his mind for years tortured by morbid suggestions to utter obscene and blasphemous words. He eventually destroyed himself, and in a letter which he wrote to me a few days before committing suicide, and which did not reach me until after his death, he said his life was embittered and made wretched by these terrible thoughts; but he thanked God he had never once yielded to them, and that, although he was a Christian in belief and conduct, he felt he was not sinning against God by committing self-destruction, if by so doing he could effectually destroy all chance of giving utterance to expressions that might contaminate the minds and morals of others.

In the incipient, as well as in the fully-developed conditions of insanity, the instincts, the coarser or animal parts of man's nature, make occasionally a bold, determined, and vigorous effort to forcibly seize hold of the sceptre, and exercise supreme authority and despotic dominion over the reasoning faculties. An awful, terrible, deadly, hand-to-hand struggle sometimes ensues between these antagonistic elements. "The reason *may* resist," says Coleridge, when referring to this appalling contest, "it *does* resist for a long time, but too often, alas! at length it yields, and the man is mad for ever." Bishop Butler confessed that he was all his life struggling against the horrible morbid suggestions (he termed them "devilish"), which, he says, would have maddened him if he had relaxed the stern wakefulness of his reason for a single moment.*

* Sir James Mackintosh alludes to this form of unhealthy and distempered mind in his celebrated letter to Robert Hall, addressed to this dis-

A lady prayed that she might be relieved by strong opiates from the horrors of her morbid imagination. She begged me to reduce her mind to a state of idiocy by artificial means.

> "Come, madness! Come unto me senseless death!
> I cannot suffer this! Here rocky wall,
> Scatter these brains, or dull them!" *

"Such a state as mine," writes a patient, "you are probably unacquainted with, notwithstanding all your experience. I am not conscious of the suspension or decay of any of the powers of my mind. I am as well able as ever I was to attend to my business; my family suppose me in health; yet the horrors of a madhouse are staring me in the face. I am a martyr to a species of persecution from within which is becoming intolerable. I am urged to say the most shocking things. Blasphemous and obscene words are ever on the tip of my tongue. Hitherto, thank God, I have been able to resist; but I often think I must yield at last, and then I shall be disgraced for ever and ruined. I solemnly assure you that I hear a voice, which seems to be within me, prompting me to utter what I would turn from with disgust if uttered by another. If I were not afraid that you would smile, I should say there is no way of

tinguished minister of the gospel, after his recovery from his first attack of insanity. Sir James Mackintosh writes:—"We are all accustomed to contemplate with pleasure the suspension of the ordinary operations of the understanding in sleep, and even to be amused by its nightly wanderings from its course in dreams. From the commanding eminence which you have gained, you will gradually familiarise your mind to consider its other aberrations as only more rare than sleep or dreams, and in process of time they will cease to appear to you much more horrible. You will thus be delivered from *the constant dread which so often brings on the very evil dreaded;* and which, as it clouds the whole of human life, is itself a greater calamity than any temporary disease. Some dread of this sort darkened the days of Johnson; and the fears of Rousseau seem to have constantly realised themselves."

* Joanna Baillie.

accounting for these extraordinary articulate whisperings but by supposing that an evil spirit has obtained possession of me for the time. My state is so wretched that, compared with what I suffer, pain or sickness would appear but trifling evils." *

"I have met," says a distinguished authority, "with more than one patient in private practice who confessed that his life had for many years been rendered completely miserable by the constant effort required to suppress morbid impulses, even when their manifestation tended only to acts of folly and not crime."

A very active and meritorious clergyman, who expended a large portion of his small income in works of charity, confessed in confidence to Dr Wigan that, after hard study or want of rest, this state of mind made him greatly apprehensive of insanity, and that often when preaching there would seem to be placed before his eyes some profane book, which the devil tempted him to read in lieu of his sermon; that the more he prayed for aid against the temptation the more he found himself oppressed by it; and that at last he discovered that violent efforts for an hour with the dumb-bells, or fencing, immediately before service, would entirely remove it. His great difficulty was to use the necessary exercise without attracting notice. A good gallop would have been the proper course, but the money which should have kept his horse he gave to the poor. A similar modification of diseased action in one brain controlled by the other is found, says Dr Wigan, in the propensity which some persons with a tendency to insanity possess to blaspheme at church, and interrupt the most solemn part of the service by violent or obscene language. Such impulses are not known to others till they become ungovern-

* "Essays on Partial Derangement of the Mind in supposed Connexion with Religion." By the late John Cheyne, M.D. Pp. 64, 65.

able, but they exist in a slighter degree in some who are called *sane*.

A young gentlemen of ancient family and historical name, of good general disposition, and fair though neglected education, had an ungovernable propensity to run up into an organ-loft in the middle of divine service, and play some well-known jocular tune, attached, perhaps, to profane or indecent words. This he would do so suddenly, that it was impossible to prevent it before he had thrown the congregation into confusion. He was always sorry for it, and declared that he tried with his utmost efforts to prevent it; and he always abstained from going near a church in service time, though he would read the prayers at home with apparent, sincere, and tranquil devotion. If he accidentally passed an open church-door, the temptation was irresistible, and he often got himself into serious embarrassment by indulging these freaks. He conversed coherently, rationally, and in all respects was perfectly sane; but he was subject to periodical epileptic fits, and the propensity was at last traced to this malady.

Many years elapsed in this very mild and equivocal form of mental disturbance; he went abroad, and I lost sight of him, but was informed that he entered into great sensual indulgences, his fits became more and more aggravated, and he at last died of what his friends called brain-fever. The persons who attended him at the last moments knew nothing of his previous history, and the brain was not examined.*

In this stage of insanity the patient occasionally suffers most acutely from phantasmagoria. He is conscious that the spectral illusions are dependent upon a disordered state of the visual and perceptive faculties (often caused by gastric and hepatic derangement), and he reasons with

* Dr Wigan's "Duality of the Mind," pp. 237, 238, 239.

himself and talks to others respecting the nature and origin of these false perceptions.

A clergyman is subject to the most singular aural illusions. Several years back he had a severe attack of carbuncle at the nape of the neck. After recovering from this affection, he began to hear voices audibly speak to him. They often addressed him in the Welsh language, occasionally using particular phrases, idioms, and endearing epithets, that he had been in the habit of indulging in *forty* years previously when paying court to his wife. He is rarely free from the influence of this conscious illusion. On one occasion he was seated by my side whilst I was occupied in writing a prescription. Appearing somewhat abstracted, I asked "whether he then heard the voices speaking to him?" He replied, "Yes, quite distinctly." I said, "What are they saying?" He rejoined, "I would rather not repeat the words, as they are not very complimentary to yourself." After begging him to inform me what observations these unseen spirits hovering about us were making, he replied that they were ejaculating "Don't leave your living; don't go abroad; remain in England; don't do what he recommends; don't take the medicine he prescribes." I had endeavoured to impress upon this patient's mind the importance of his relieving himself for a time from all anxious and responsible clerical and parochial duty. I advised a continental tour, with a view of trying the effect of a thorough change of air and scene, having found, in cases similar to his, much benefit from this mode of treatment. Whatever I suggested for the re-establishment of this clergyman's health, these imaginary persons did their best, most uncourteously, to oppose.

Accompanying the other symptoms characteristic of the stage of consciousness, are the following:—The mind is harassed and bewildered by odd notions, unusual feelings,

unnatural trains of thought, strange inclinations, intense irritability, unequal powers of attention, confused, irregular, painful, disturbed, and sometimes ludicrous association of ideas. As these unhealthy feelings are *forcing* an entrance and trying to obtain a *settlement* in the mind, the patient is vexed and irritated with himself for permitting them to intrude upon the sanctity of his thoughts. An heroic effort is often made to dissipate and dislodge these morbid approaches of insanity, or, when this cannot be accomplished, to studiously, artfully, and ingeniously conceal their existence.

An insane aversion of a parent to his children, entwining itself into the secret recesses of thought; a growing, unreasonable, and unaccountable dislike to the companionship of old friends (often to those formerly dearly and tenderly loved) creeping insidiously and stealthily into the mind; strange, inexplicable misgivings; motiveless and unaccountable suspicions as to the affection of a loved son, unreasonable doubts as to the devotion of a favourite and tenderly-attached daughter; apprehensions as to the chastity of the wife, constancy and fidelity of the husband, flit sometimes like a dark shadow and a troubled dream across the morbidly-disturbed and anxious mind *years* before insanity is imagined to have commenced its ravages.* These symp-

* There are no delusions so sad and fatal in their consequences as those relating to the fidelity of the wife. Many valuable lives have been sacrificed to this frightfully dangerous hallucination. A man was confined in an asylum whilst suffering from this delusion. For many months this idea was uppermost in his mind and appeared to absorb all his thoughts. At the expiration of eight or nine months he appeared to be much improved in bodily and mental health, and the delusion had apparently less hold of his imagination. Eventually, he cunningly declared that his mind was quite at ease respecting his wife, and that he no longer believed that she had or could have been unfaithful to him. Under a mistaken impression that he had recovered, the patient was discharged from the asylum, and permitted to return home. In about a week or ten days

toms (long before they are recognised to be *morbid*) cause much acute and bitter anguish, concealed suffering, great and unobserved misery in the bosom of families, often sapping the foundation of domestic happiness. A contest of this character in an *unhealthy* but not yet *insane* mind, has continued for a long period unknown, except to the wretched sufferer, before the intellect has succumbed to its baneful and destructive influence. In this state of disordered health the patient endeavours, whilst pursuing his ordinary occupations, frequenting places of amusement, and mixing daily with his family and friends, to *appear* to those about him in good mental health, and to act like a rational man. Occasionally he is able for a period effectually to simulate perfect sanity, and effectually mask from others his disordered condition of intellect.

In the incipient stage of intoxication a person will make a determined effort to comport himself like a sober man, being to an extent conscious of the degrading and brutalised condition to which he is reduced. He thus endeavours to conceal from observation his actual state, by making a great effort to control his ideas, talk rationally, and walk steadily; and although much under the potent influence of intoxicating drink, he is able, by a resolute and determined effort of the will, for a time to play well his part and disarm all suspicion as to his actual condition

afterwards he murdered his wife and child, believing that the former had committed adultery, and that the child was not his own. For several days after joining his family he appeared quite well, so cleverly and effectually did he mask his lunacy from those immediately about him. A baker suspected the fidelity of his wife. He was clearly deranged on the point. He eventually, whilst under the influence of this delusion, emasculated himself, and when spoken to on the subject, insanely argued, that as his wife was with child, the fact of his mutilation would clearly establish to the world the truth of his accusation as to her unfaithfulness, as no one would for a moment *then* believe that he could be the father of the child with which she was pregnant,

of inebriation. How analogous is this to the state of the mind battling courageously, and, it may be, successfully, with eccentric, unnatural, odd, impure, and unhealthy mental impressions, clearly the first beginnings of derangement of mind.*

In some women the insanity (particularly if it be of the puerperal type) is characterised by a singularly distressing perversion of thought, connected with and caused by a morbidly-exalted state of the reproductive instincts. The

* With what consummate knowledge of the human mind has Dr Johnson pourtrayed the incipient stage of insanity, when the intellect, still to a certain degree conscious of the dawnings of morbid thought, endeavours to struggle, and for a time does so successfully, against the suggestions of a disordered and rampant imagination. I refer to his account in "Rasselas" of the astronomer's recognition of, and conflict with, delusive impressions, as well as his description of their eventual and melancholy triumph over his reason. Addressing himself to Imlac, the astronomer says, "I have possessed for five years the regulation of the weather and the distribution of the seasons; the sun has listened to my dictates, and passed from tropic to tropic by my direction; the clouds at my call have poured their waters, and the Nile has overflowed at my command; I have restrained the rage of the Dog-star, and mitigated the fervours of the Crab. The winds alone, of all the elemental powers, have hitherto refused my authority, and multitudes have perished by equinoctial tempests, which I found myself unable to prohibit or restrain."

"Might not some other cause," said Imlac, "produce this concurrence? The Nile does not always rise on the same day."

"Do not believe," said he, with impatience, "that such objections could escape me. *I reasoned long against my own conviction, and laboured against truth with the utmost obstinacy. I sometimes suspected myself of madness,* and should not have dared to impart this secret but to a man like you, capable of distinguishing the wonderful from the impossible, and the incredible from the false."

"Why sir," said I, "do you call that incredible which you know, or think you know, to be true?"

"Because," said he, "I cannot prove it by any external evidence, and I know too well the laws of demonstration to think that my conviction ought to influence another who cannot, like me, be conscious of its force. I therefore shall not attempt to gain credit by disputation. It is sufficient that I feel this power, that I have long possessed, and every day exerted it."

conversation is, in these cases, occasionally tinctured with expressions from the utterance of which the unhappy sufferer would, when in health, like a sensitive plant, have recoiled. The gentlest of the sex, the purest of feminine minds, and most pious, refined, and cultivated moral natures, are often the first to exhibit, when suffering from a particular phase of mental derangement, this painful moral and mental degeneration. Such melancholy manifestations of poor human nature—fallen, crushed, perverted, and often destroyed by disease—suggest to the philosophic student sources of deep and profound thought, and subjects for grave meditation. It is, however, consolatory to reflect that the mind does often pass through this terrible and mysterious form of alienation intact, emerging from the fiery ordeal free from moral taint or contamination—

> "Thoughts impure
> May pass through minds of angels and of man,
> And leave no stain."

When analysing these sad states of morbid idea, distressing forms of disordered emotion, and painful types of excited passion, are we not obliged to confess that there is very little in connexion with them to elevate, expand, and purify the taste, or to charm, captivate, and enchain the poet's fancy.

In this malady the emotions, sensations, and appetites are unhappily in a melancholy state of degradation, perversion, and alienation, and, as a general rule, the conversation and conduct of those so afflicted reflect and are in unison with this derangement of the intellect and disordered state of the instincts. The reason is dethroned and taken forcibly captive by the animal impulses, and these, when in a state of supremacy, exercise an undisputed and tyrannical sovereignty over the judgment, conscience, and the will.

Shakspeare, in one of the most touchingly affecting crea-

tions of his transcendent genius, threw a poetic charm, a brilliant flood of fancy, round the character of Ophelia—

"Sweet as spring-time flowers,"

so redolent of feminine gentleness, purity, and grace; but ever true to nature, this great magician and all but inspired poet, could not sacrifice truth to fiction, fancy to fact, and he therefore makes this love-sick girl, during her insane warblings, give utterance to conceptions that never could have suggested themselves to her exquisitely chaste and delicate mind before it was prostrated and perverted by disease.

When addressing herself, almost unconsciously, to the king, in reply to his question, "How do you, pretty lady?" Ophelia, after plaintively exclaiming—

"Lord, we know what we are, but know not what we may be,"

utters the following rhapsody:—

"To-morrow is Saint Valentine's day,
All in the morning betime,
And I a maid at your window,
To be your Valentine;
Then up he rose and don'd his cloaths,
And dupt the chamber door,
Let in the maid that out a maid
Never departed more."

These sad states of perverted and disordered instinct are susceptible of explanation. In the first place, we are bound to consider the scriptural doctrine of the *innate* corruption and *natural* depravity of the human heart. As long as reason reigns supreme, unclouded by disease, and the will retains its normal and healthy sovereignty over the higher faculties of the mind and control of the instincts, the natural tendency that exists towards evil thoughts and vicious actions is kept, by the mind's own efforts, aided, if not by the grace of God, by exalted moral considerations, in a state

of subjection; but contemporaneously with a perversion of the reasoning faculty, caused by some type of physical, it may be *cerebral*, disease, does the effect of early training, educational discipline, carefully-cultivated habits of thought, strictly-considered social companionship, and zealously-directed moral and religious influences, cease (in many cases) to restrain the passions and curb the animal instincts and appetites. Hence the painful character of the *expressions* unconsciously used by some young women when insane.*

I am now only addressing myself to the results of *diseased* brain and the effect of *disordered* mind. There are often witnessed many sad exhibitions of depraved thought and vitiated taste consequent upon a voluntary and sinful abandonment of the reason and passions to gross habits of sensuality, vice, and crime. These melancholy conditions of perverted intellect have no necessary relation to the phases of diseased mind of which I am now speaking.

Apart altogether, however, from this solution of a difficult and complex question, we are bound to consider the effect of morbid exaltation (as the effect of diseased *brain* and disorder of other organs) of natural instincts inciting prematurely into unhealthy activity feelings and inclinations normally (until a certain period of life) in a torpid and dormant state. We may hence account pathologically for the development of natural physical tendencies usually developed at or after the age of puberty, but it does not explain the actual knowledge and use of prurient words and obscene expressions. This phase of mental alienation can only result from the patients having heard the identical words used by persons with whom they have unfortunately

* "Why need we talk of a fiery hell? If the will, which is the law of our nature, were withdrawn from our memory, fancy, understanding, and reason, no other hell could equal, for a spiritual being, what we should then feel from the anarchy of our powers!"—*Coleridge's Table Talk.*

associated, or from having seen them in print, or heard them publicly or privately uttered.

There are, however, in operation other sources of moral contamination and mental deterioration from which the most vigilant parents are not always able to guard their children. I refer to the pernicious example and wicked suggestions of depraved, irreligious, and profligate servants (a frightful cause of moral pollution as well as of mental idiocy in early life), occasionally smuggled into the bosom of families by false characters, to a perusal of vicious books, sensational novels, sight of indecent prints surreptitiously taken into the nursery, and reading the details of gross acts of immorality, made matters of judicial investigation so faithfully, and, it is to be regretted, minutely reported in the ordinary channels of daily communication. These frightful records of vice and crime so palpably exposed, elaborately and artistically developed, are fearfully and fatally destructive to the pure and unsophisticated minds of young persons.*

But happily other natural feelings and propensities may

* "To the pure," it is said, "all things are pure." This is a trite maxim, but it has been well observed in regard to it, that it may apply to all things natural, but not artificial; not to scenes or writings that pander to tastes or excite the senses. Innocence feels healthily; to it all nature is pure. But just as the dove trembles at the approach of the hawk, and the young calf shudders at the lion never seen before, so innocence shrinks from what is wrong by the same divine instinct. And so with human beings. There is a delicacy so pure that vicious men in its presence become almost pure; all of purity in them is brought out; like attaches itself to like. A corrupt heart elicits in an hour all that is bad in us; a pure and religious one brings out and draws to itself all that is best and pure. If that which is wrong seems pure, then the heart is not pure, but vitiated. To the rightly minded all that is right in the course of this world seems pure. Oh! let us all cultivate, as one of the great secrets of good health of body and mind and of long life, purity of thought. How the innocent heart purifies all it touches. The most ferocious natures are soothed and tamed by innocence.—*Sermon by the Rev. F. W. Robertson.*

be in the ascendancy, for in many cases of sad mental alienation, the patient, although a martyr to distressing delusions, often exhibits great elevation of sentiment, exquisite taste, and purity of thought. He frequently gives utterance to expressions that would reflect the highest honour upon healthy and cultivated understandings. The light of reason occasionally permeates with undiminished lustre the dark cloud threatening for a time altogether to overshadow, if not to eclipse, its effulgence. Natural sweetness, unaffected gentleness, and marked amiability of disposition are often witnessed triumphing over fearful types of mental disease, struggling to crush pure and holy thought, obliterate kindly sympathies, and pervert and paralyse the noble aspirations of the heart.

The unselfish consideration which the insane so frequently manifest towards persons temporarily deprived like themselves of unrestrained freedom of action, the affectionate and assiduous attention they pay to their companions in affliction and sorrow, their endeavours to assuage their bitter anguish by repeated assurances that their removal from home (although apparently an act of harshness and unkindness) could not, under the circumstances of their illness, be avoided, and would ultimately tend to their advantage, conclusively establish that insanity often leaves untouched some of the best principles that ennoble and dignify human nature. Men and women decidedly insane, although not altogether conscious of the fact, thus administer comfort and consolation to the wounded spirits of those recently admitted as patients within an institution in which they themselves were most unwillingly confined. The insane occasionally, with a view of soothing and mitigating the sorrows of those about them, freely admit that they had, like others, been mentally afflicted, but had

recovered or were convalescent from the symptoms of the malady; and although at the commencement of their illness they were firmly persuaded that they were perfectly sane, and ought never to have been removed from home to an asylum, they were *now* fully satisfied of having been deranged, and felt grateful to their friends for recognising the fact, and placing them under moral control and medical treatment. The insane occasionally have been known to pray by the bedside of other patients when afflicted with severe and dangerous bodily illness, and do so, too, with pious fervour and great propriety of language, never once making the slightest allusion to their own unhappy and disordered thoughts.*

Closely allied to the state of conscious insanity of which I have been speaking, or, to use the language of Coleridge, "the mind's own anticipation of madness," is what may be designated a morbid presentiment of threatening and approaching mental alienation. This condition of disordered thought is occasionally recognised in *cerebral* as well as in *mental* diseases. The patient has, in a few instances that have come under my observation, exhibited in the early stage of brain disease a mysterious prophetic power, a singular presentiment or warning of his cerebral and

* Simon Brown was a dissenting minister of great intellectual powers. He became insane. His delusion was, that he had fallen under the sensible displeasure of God, who had caused his rational soul gradually to perish, and left him only, in common with brutes, an animal life; that it was therefore profane in him to pray, and incongruous to be present at the prayers of others. In this opinion he was inflexible. Being once importuned to say grace at the table of a friend, he repeatedly excused himself, but the request being still repeated, and the company kept standing, he discovered evident tokens of distress, and after some irresolute gestures and hesitation, uttered with great fervour this ejaculation:—"Most merciful and Almighty God! let thy spirit which moved upon the face of the waters when there was no light, descend upon me, that from this darkness there may rise up a man to praise thee!"

insane attacks. I have known patients who for several *years* predicted the accession of mental derangement, and who ultimately became insane.

"We cannot," says Portal, "hear without astonishment the remarks sometimes made by those who are threatened with attacks of apoplexy. All their senses appear perfect and entire, but their minds appear to have acquired an inspired and prophetic power. Their first impression is, that they are about to quit the world. Then they predict the future by the present, and the event justifying the prediction, they are regarded as true prophets." This physician saw a patient who foretold his death six days previously to its actual occurrence, there being at the time no symptom in connexion with the case that justified so unfavourable a prognosis.

Sir Walter Scott had sad forebodings as to the final close of his active, eventful, and anxious life, and a melancholy presentiment of the attack of disease of the brain of which he died. His son-in-law and biographer, Mr Lockhart, says, when referring to the final scene of the great magician's life, "A more difficult and delicate task never devolved upon any man's friend than he had about this time to encounter. He could not watch Scott from hour to hour—above all, he could not write to his dictation—without gradually, slowly, most reluctantly, taking home to his bosom the conviction that the mighty mind which he had worshipped through more than thirty years of intimacy had lost something, and was daily losing something more, of its energy. The faculties were there, and each of them was every now and then displaying itself in its full vigour, but the sagacious judgment, the brilliant fancy, the unrivalled memory, were all subject to occasional eclipse :—

> "Along the chords the finger strayed,
> And an uncertain warbling made."

Ever and anon he paused and looked round him, like one half-waking from a dream, mocked with shadows. The sad bewilderment of his gaze showed a momentary consciousness that, like Samson in the lap of the Philistine, 'his strength was passing from him, and he was becoming weak like unto other men.' Then came the strong effort of aroused will—the clouds dispersed as if before an irresistible current of purer air—all was bright and serene as of old, and then it closed again in yet deeper darkness. Under these circumstances, it was no wonder that his medical advisers assured him repeatedly and emphatically that, if he persisted in working his brain, nothing could prevent his malady from recurring with redoubled severity. His answer was—'As for bidding me not work, Molly might as well put the kettle on the fire, and say, '*Now, don't boil.*' . . . I foresee distinctly that if I were to be idle I should go mad!' The fate of Swift and Marlborough was also before his eyes; and in his journal there is an entry expressive of his fear lest the anticipated blow should not destroy life, and that he might linger on a driveller and a show. 'I do not think my head is weakened—(this was a subsequent entry)—yet a strange vacillation makes me suspect. Is it not thus that men begin to fail, becoming, as it were, infirm of purpose?'"

And when at the court-house at Jedburgh he faced the rabble populace, and braved their hootings, the same idea of impending calamity was still present to his mind as he greeted them on turning away, in the words of the doomed gladiator, "*Morituri vos saluto!*" "As the plough neared the end of the furrow," to use Scott's own expressive phrase, he was still urged on by his fixed habits of labour. "Under the full consciousness that he had sustained three or four strokes of apoplexy or palsy, or both combined, and tortured by various attendant ailments, cramp, rheumatism in half

his joints, daily-increasing lameness, and now of late gravel, (which was, though last, not least) he retained all the energy of his will, and struggled manfully against this sea of troubles."

Dean Swift had a singular presentiment of his imbecility.* Dr Young, walking one day with him some short distance from Dublin, suddenly missed the Dean, who had lagged behind. He found him at a distance, gazing in a solemn state of abstraction at the top of a lofty elm, whose head had been recently blasted by a hurricane. Directing Dr Young's attention to the summit of the tree, he heaved a heavy sigh, and exclaimed—"I shall be like that tree; I shall die at the TOP first."

It is not difficult to account pathologically for the singular phenomena referred to. If damage is done to the delicate structure of the brain in early life by a moral or physical strain on this delicate organ, and the material lesion, whatever be its nature, is (as is usually the case) of slow and progressive growth, the pathologist can easily understand the existence of abnormal *physical* sensations within the head, and morbid *mental* impressions (engendered by changes in the nervous tissue of the brain), which would, in many cases, necessarily give rise (particularly when an hereditary taint exists) to the anticipation of insanity, or disease of the brain, developing itself in after-life.

In cases where mental disease is recognised, the utmost

* The disease of Swift, supposed to have been brought on by eating too much fruit, was giddiness with deafness, which attacked him from time to time, began very early, pursued him through life, and at last sent him to the grave deprived of reason. In his youth he had manifested great irregularity of conduct; for at his examination for his B.A. degree at Dublin he was found "conspicuously deficient." He then commenced seriously to work, and studied eight hours a day for seventeen years. The obscenity and grossness of his writings, in which he dwells upon disgusting matters with morbid minuteness, are proofs of a vitiated taste, if not a disordered mind.

caution and most careful examination are necessary ere we conclude that the brain is seriously affected; for the unhealthy feelings previously described as often symptomatic of incipient insanity, are occasionally observed in certain anomalous conditions of the nervous system allied to hysteria, and may exist apart altogether from any actual disorder, or even a tendency to derangement of mind.

These distressing nervous symptoms sometimes are seen in young girls when *in transitu* from puberty to womanhood, and occur to females at the critical period of life. This morbid exaltation of the nervous and mental functions is generally found associated with visceral complications, easily, however, in many cases, curable. In some instances it is the effect of long-continued and neglected derangement of the stomach and liver; in others, the uterine system is the seat of the mischief; and in some types of the malady the condition of mind is the effect of irritation and congestion established in the brain itself.

CHAPTER VIII.

STAGE OF EXALTATION.

THIS stage will be considered in its twofold relation, viz.:—

1. *Psychical Exaltation.*
2. *Somatic Exaltation.*

I. PSYCHICAL EXALTATION.—For some period before the more active symptoms of cerebral and mental exaltation are manifested, the patient is observed to be wayward, capricious, passionate, and impulsive; irritable, fractious, peevish, and pettish; exhibiting what would (under less suspicious states of mind and more favourable conditions of bodily health) be termed, in colloquial phraseology, an "unhappy infirmity of temper." These symptoms of exaltation are occasionally associated with alternate fits of vital and psychical depression and mental confusion. He is subsequently morbidly anxious about trifles, slight ruffles on the face, and trivial annoyances occurring in the family circle or during the course of business, worry, flurry, tease, and fret him, nothing satisfying or soothing his mind, and everything, to his distempered fancy, going wrong within the sacred precincts of domestic life. He is quick at fancying affronts, and greatly exaggerates the slightest and most trifling acts of supposed inattention. The least irregularity on the part of the domestics excites, angers, and vexes him.

He is suspicious of, and quarrels with his nearest relatives, and mistrusts his best, kindest, and most faithful friends, often harbouring absurd and unfounded misgivings in regard to the purity and fidelity of his wife, and the attachment and affection of his children.

When in this premonitory state of mental derangement, bordering closely on an attack of acute insanity, he twists, distorts, misconceives, misconstrues, and perverts, in a most singular manner, every look, gesture, action, and word of those closely associated and nearly related to him. The expressions of love, affection, kindness, endearing sympathy, and friendship which greet him, are viewed as evidences of enmity and ill-will, or as well-contrived, cunningly-devised, carefully and adroitly arranged masks to hide some latent design and artfully-veiled conspiracy against his life, liberty, and property.

All objects within the range of his perverted senses are tinctured and distorted by a disordered vision-jaundiced eye, and morbidly exalted and excited fancy. He shakes with fear at the reflection of his own image, crouches with apprehension at the reverberating tramp of his footsteps—

> "Back recoiled, he knew not why,
> Even at the sound himself had made;"

trembles at the whistling of the wind through the lattice of the window, turns ghastly pale at the echo of his own voice, falls back with horror at the recognition of his shadow, mistaking it for some frightful phantom or grim spectral image—

> "Fierce as ten furies, terrible as Hell"*—

following with determined energy and a malignant aspect

* Milton.

closely in his wake, and with resistless impetuosity dogging his every footstep—

> "Black Melancholy sits, and round her throws
> A death-like silence and a dread repose:
> Her gloomy presence saddens all the scene,
> Shades every flower, and darkens every green,
> Deepens the murmur of the falling flood,
> And breathes a browner horror on the wood." *

Occasionally an insane person exhibits at the commencement of his attack what a superficial observer would consider an unnatural elevation of spirits. He becomes suddenly loquacious, talks loudly, and asserts his opinions dogmatically; is then querulous, peevish, irresolute, indecisive, not being for two consecutive minutes in the same frame of mind. He quarrels with his best friends; argues with great warmth, pertinacity, and vehemence the most trifling matters; is excessive and extravagant in his expressions of friendship, or bitter and rancorous in his feelings of dislike, hatred, and aversion.

In this state of morbidly-active brain and unhealthily-excited mind, the fancy runs riot, taking discursive and airy flights, every circumstance being viewed by the patient *couleur de rose.* With this exaltation of the imagination there is associated great exaggeration of expression, forming in many cases a striking contrast with the patient's usual modesty and sobriety of conversation, strict urbanity, repose, and propriety of conduct. He talks ostentatiously of his vast wealth, boasts of his elevated social position, speaks exultingly of the profound respect he can command, appears vain of the high rank which has been conferred upon him, and is proud of the still greater distinction he imagines he is destined to acquire.

As the mental disorder advances, he, in direct opposition

* Pope.

to his usual habits and tastes, delights in low society, neglects his personal appearance, drinks stimulants to excess, is extravagant in pecuniary matters, and often squanders his property in visionary and absurd speculations. He subsequently exhibits some form of insane obtuseness or moral obliquity. He is lost to all sense of truth, respect for decency of thought, regard for good breeding, and all notion of decorous conduct. He magnifies, exaggerates, twists, distorts, and falsifies everything connected with himself, being the hero of every incident accidentally mentioned in his hearing.

The mental characteristics of the patient are often in direct opposition to his natural or healthy modes of thinking and acting. For some months before any *alienation* of mind is recognised his intellect is evidently off its balance. He has violent paroxyms of extreme irritability and passion produced by the most trifling causes. Contrary to his ordinary practice, he swears, deals in loose inuendoes, talks obscenely, and acts indecently, breaking out in loud fits of sobbing or in wild paroxysms of laughter, being alternately under the influence of agony, hope, joy, and despair—

> "Moody madness,
> Laughing loud amidst severest woe."*

---

* Mrs Trollope, when speaking of Strasburg Cathedral, says—"I entered the church with the intention of climbing the top of its spire, but gave it up on hearing the sacristan's account of the ascent. It is on record that three females have been, at different times, so overpowered by the giddy eminence which they had reached, that they have thrown themselves off *in a momentary fit of delirium*, and been dashed to atoms. The latest of these awful accidents occurred in 1833; and the man who recounted the tale to Henry [Mrs Trollope's son], while he was standing on the self-same pinnacle, told him that he had himself witnessed it. He said that the unfortunate creature was quite a young girl, and the first symptom she gave of the suicidal delirium *was excessive mirth.* She *laughed and shouted as if in an ecstasy;* and having reached a point

In the stage of morbid exaltation the patient frequently exhibits a talent for poetry, mechanics, oratory, and elocution, quite unusual and inconsistent with his education, and opposed to his normal habits of thought. His witty sallies, fervid bursts of impassioned eloquence, readiness at repartee, power of extemporaneous versification, mechanical skill and ingenuity, amaze those who were acquainted with his ordinary mental capacity and educational attainments. There is an unusual display of vigour of mind, an ability to converse fluently on subjects not previously familiar to the mind, and an aptitude to discuss matters wholly unconnected with his particular situation in life. A quickness of perception, a facility and propriety of utterance quite unusual to the habits of the patient, become in some cases, as the disease progresses, more manifest.

"The records of wit and cunning of madmen are numerous in every country. Talents for eloquence, poetry, music, painting, and uncommon ingenuity in several of the mechanical arts, are often evolved in this state of madness. A gentleman whom I attended in an hospital in 1810 often delighted as well as astonished the patients and officers of our hospital by his displays of oratory in preaching from a table in the hospital-yard every Sunday. A female patient of mine, who became

where nothing intercepted her view of the abyss below, she sprang off, screaming wildly as she fell."

"Exuberant gaiety," says Dr Mayo, "bursting forth in one whose ordinary state is extreme depression, constitutes an ominous symptom when the tendency to suicide is suspected. The patient has often at that moment achieved just that state of orgasm which will enable him to commit the act, and he exults fearfully in the consciousness of this."

"Furor est, agnoscere solis
Quem liceat quos jam tangit vicinia fati."

—*Elements of the Pathology of the Human Mind*, p. 79.

insane after parturition in the year 1807, sang hymns and songs of her own composition, during the latter stage of her illness, with a tone and voice so soft and pleasant that I hung upon it with delight every time I visited her. She had never discovered a talent for poetry or music in any previous part of her life. Two instances of a talent for drawing evolved by madness have occurred within my knowledge. And where is the hospital for mad people in which elegant and completely-rigged ships and curious pieces of machinery have not been exhibited by persons who never discovered the least turn for a mechanical art previously to their derangement? Sometimes we observe in mad people a resuscitation of knowledge; hence we hear them describe past events and speak in ancient or modern languages, or repeat long and interesting passages from books, none of which, we are sure, they were capable of recollecting in the natural and healthy state of their mind."*

A gentleman, whilst insane and confined in an asylum, wrote an able philosophical and critical essay on "Original Sin." It was found among his MS. papers after death. He was, when he penned the dissertation, under a delusion that there was a family conspiracy to poison him. Occasionally he admitted that he struggled resolutely against this delusion, but never thoroughly succeeded in mastering it. After his decease the valves of the heart were found to be ossified. As asphyxial sensations are known to give rise to erroneous mental impressions, it was presumed that the idea of poisoning was suggested by the uneasiness which he felt whenever the stomach was overloaded and distended with food. Everything he ate disagreed with him; the heart laboured to propel the blood through its ossified and constricted passages, the lungs became en-

* "On the Diseases of the Mind." By Benjamin Rush, M.D. 1835.

gorged and congested, and the breathing spasmodic and difficult. When in this state of physical suffering he was wont to exclaim. "The villains have been poisoning me again." Nevertheless, in his happier and more lucid moments, a more charming companion was never met with. No one ever sat down in his society without being amused and interested, or having derived some information from his vast erudition and great literary and scientific accomplishments. But while he could reason clearly and ably on philosophical subjects, his moral apprehensions and affections were still perverted. If the name of one particular member of his family were alluded to, he would utter violent imprecations against him, and accompany them with the most bitter homicidal threats. Among his manuscripts was found another document, which contrasts somewhat strangely with the theological essay alluded to. It was entitled "My Last Will and Testament," and clearly indicated the morbid state of his feelings at the time it was penned.* Men naturally dull of apprehension—in fact, nearly half-witted—exhibit occasionally, both in the early as well as advanced stages of insanity, considerable intellectual acuteness and capacity.†

* The will was as follows:—"In the name of God. Amen! This is the last will and testament of me, ——. I bequeath all my property, consisting of . . . in the Three per Cents, and about . . . in Messrs —— Bank, and a security upon the estate of ——, in the county of ——, which security is in my brother's desk, to Mr ——, artist. To all my own family I bequeath my curse, for having administered, and bribed other persons to administer, poison to me, by which I am reduced to a very weak state, and for having bribed two doctors to certify me insane when I was not so, by which I have been confined two years and six months without having been insane. May Jehovah visit these wrongs upon them is the last prayer of ——."

† This interesting subject is considered at length with great philosophic acumen, elegance of taste, and literary ability, by M. Octave Delepierre in two essays (privately published), entitled (1.) "Etudes Biobibliographes sur les Fous Littéraires;" (2.) "Essai Biographique sur

Pinel says he was troubled to follow the incorrigible garrulity and flow of unconnected and incoherent words of an old scholar, who at other times passed into a stern and savage silence. When any piece of poetry in which he had formerly delighted suggested itself to his memory, he became capable of continuous attention, his judgment seemed to regain its rights, and he composed verses in which there reigned not only a spirit of order and of justness in the ideas, but also a regular supply of fancy and some very happy sallies.

"Certain facts," says Pinel, "appear so extraordinary that they have need of being borne up by the most authentic testimony in order not to be called in question. I speak of the poetical enthusiasm which is said to have characterised certain paroxysms of mania even when the verses recited could nowise be regarded as an act of reminiscence. I have myself heard a maniac declaim, with grace and exquisite discernment, a longer or shorter succession of the verses of Virgil or Horace, which had been a long time effaced from his memory, inasmuch as, after his education was terminated, he had been twenty years absent in the American colonies given up to the pursuit of wealth, and the reverses occasioned by the revolution had alone thrown him into this distraction of mind. An English author attests that a young girl of a feeble constitution and subject to nervous affections, had become insane, and that during her delirium she expressed herself in very harmonious English verses, though she had before shown no disposition for poetry." Van Swieten relates the case of a woman who, during her paroxysms of mania, showed a rare facility for versification, though she had before been occu-

l'Histoire Littéraire des Fous." An analysis of these brochures will be found in Nos. XIII. and XIV. (New Series) of my "Psychological Journal."

pied with manual labour, and her understanding had never been enriched by culture.

Tasso composed his most eloquent and impassioned verses during paroxysms of insanity. Lucretius wrote his immortal poem, "De Rerum Naturâ," while labouring under a paroxysm of insanity caused by a philtre given him in a fit of jealousy by his wife or mistress, Lucilia. It has been maintained by some writers arrogating to themselves great critical penetration, that they were competent, from internal evidence, to point out in this celebrated poem those passages that were evidently composed by Lucretius during his attack of insanity. They refer particularly to portions of Book III., in which the poet speaks of death and the state of the soul.* Alexander Cruden compiled his "Concordance" whilst insane.† Some of the ablest articles in Aikin's Biography were written by a patient in a lunatic asylum. Cibber says in his Life of Lee—"I have seen a ship of straw finely fabricated by a mad ship-builder, and the most lovely attitudes have been represented by a lunatic statuary in his cell." Nathaniel Lee was known by the name of the "mad poet." He was confined for some time

* In all probability the passages referred to are the subjoined, in which the poet endeavours to establish the mortality of the soul :—

"Mortalem tamen animam fateare necesse est
Nec refert utrum pereat dispersa per auras,
An contracta sueis e partibus obbrutescat ;
Quando hominem totum magis ac magis undique sensus
Deficit, et vitæ minus et minus undique restat."
Lib. iii. v. 542.

"Præterea, si immortalis natura animai
Constat, et in corpus nascentibus insinuatur ;
Quur super anteactum ætatem meminisse nequimus,
Nec vestigia gestarum rerum ulla tenemus ?"
Lib. iii. v. 670.

† Alexander Cruden, during his first attack of insanity, was asked whether he ever was mad? He replied, "I *am* as mad *now* as I was *formerly*, and as mad *then* as I am *now* ; that is to say, *not mad at any time.*"

in Bethlem Hospital. Langbaine observes:—"It is to be regretted that his madness exceeded that divine fury described by Ovid as characterising all true poets"—

"Est Deus in nobis agitante calescimus illo."

In a satire on the poets, Nathaniel Lee's state of mind when in the asylum is thus described:—

"There in a den remov'd from human eyes,
Possest with muse, the brain-sick poet lies,
Too miserably wretched to be named;
For plays, for heroes, and for passion fam'd:
Thoughtless he raves his sleepless hours away,
In chains all night, in darkness all the day,
And if he gets some intervals from pain,
The fit returns," &c.

The wife of a clergyman exhibited during her paroxysms of maniacal excitement a wonderful talent for rapid and clever versification. The nurse who was in constant attendance upon the patient was so struck with the phenomenon, that she had transcribed, before calling my attention to the fact, a number of verses evidencing poetical powers of no ordinary character. The disposition to improvise was manifested mostly at night. After her recovery all capacity for rhyming appeared to subside. I understand that previously to her mental illness she had not exhibited the slightest poetical ability.

Insanity in young women of a certain temperament is often distinguished at its commencement by prompt capacity and lively disposition, who in general have been the favourites of parents and tutors, by their facility in acquiring knowledge, and by a precocity of attainment they have manifested. This disorder commences about, or shortly after, the period of menstruation, and in many cases has been unconnected, as far as could be ascertained, with hereditary taint. The attack is almost imperceptible. Some

months usually elapse before it becomes the subject of particular notice; and fond relatives are frequently deceived by the hope that it is only an abatement of excessive vivacity conducing to a prudent reserve and steadiness of character. A degree of apparent thoughtfulness and inactivity precedes, together with a diminution of the ordinary curiosity concerning that which is passing before them; and they therefore neglect those objects and pursuits which formerly proved sources of delight and instruction. The sensibility appears to be considerably blunted; they do not bear the same affection towards their parents and relations; they become unfeeling to kindness and careless of reproof. To their companions they show a cold civility, but take no interest whatever in their concerns. If they read a book, they are unable to give any account of its contents. Sometimes with steadfast eyes they will dwell for an hour on one page, and then turn over a number in a few minutes. It is very difficult to persuade them to write, which most readily develops their state of mind; if they do so, much time is consumed and little produced. The letter is repeatedly begun, but they seldom advance beyond a sentence or two. The orthography becomes puzzling, and by endeavouring to adjust the spelling, the subject vanishes altogether from the mind. As their apathy increases, they are negligent of their dress and inattentive to personal cleanliness. Frequently they experience transient impulses of passion, but these have no source in sentiment; the tears which trickle down at one time are as unmeaning as the loud laugh which succeeds them; and it often happens that a momentary gust of anger, with its attendant invectives, ceases before the threat can be concluded.*

Whilst analysing the incipient symptoms of insanity as

* Dr Haslam.

observed during the stage of exaltation and excitement, it will not be irrelevant to consider an important subject closely connected with the matter under consideration, and one which more immediately bears upon a medico-legal point of great interest to the jurists, as well as to the practical psychologist. I refer to the subtlety, quickness of apprehension, ready wit, biting sarcasm, great power of self-control, extreme cunning, and extraordinary shrewdness of the insane, as well as the wonderful mastery occasionally exercised by lunatics over their acknowledged delusions, whilst under the searching analysis of the most accomplished advocates of the day. In many cases it has been proved to be useless to possess the "key-note" to the insanity of the person under examination, or "to touch the chord" supposed to be in unison with, and likely to awaken into activity the latent insane delusion and cunningly-concealed hallucination. The lunatic, if he be carefully trained and skilfully tutored, having an important purpose to accomplish by effectually *masking* his mental disorder, will, under these circumstances, act with wonderful ability and singular ingenuity on the *defensive,* and in the teeth of the most stringent examination make "no sign." How often are the insane (who have been previously well prepared) observed to thus baffle the acumen of the most experienced and sagacious members of the bar.

It is an accepted notion, that the delusion will immediately develope itself, provided its character be known, and special reference made to the false impression by those engaged in testing the sanity of persons alleged to be of deranged mind. Nathaniel Lee, who acquired no inconsiderable degree of practical knowledge of the phenomena of insanity, during his long incarceration in Bethlem, and prolonged association with the inmates of that hospital, appears to have been inoculated with this fallacy,

for he says in his description of the madness of Cæsar Borgia—

> "Like a poor lunatic that makes his moan,
> And for a while beguiles his lookers-on,
> He reasons well. His eyes their wildness lose.
> He vows the keepers his wronged sense abuse;
> But if you hit the cause that hurts his brain,
> Then his teeth gnash, he foams, he shakes his chain,
> His eyeballs roll, and he is mad again."

It requires, however, no ordinary amount of tact, skill, and practical acquaintance with the psychology of insanity to qualify a person to examine and unravel successfully a complex case of subtle lunacy. It is often necessary to pay several protracted visits to a suspected case of mental unsoundness, conversing with the patient on general subjects, before it will be prudent to make any reference to his alleged delusions. His confidence is thus effectually secured, and the expert is able gradually to direct attention to the points upon which the mind is alleged to be disordered. If the lunatic perceives the drift of the physician's visit, purport of the questions addressed to him, and realises the importance of concealing impressions that are represented to be creations of a diseased imagination, it will require much persevering ingenuity to extract from him any admission of his state of insane mind.

Feigned insanity may be unmasked by placing the patient under the influence of chloroform. The same agent will be found serviceable in analysing cases of cunningly-concealed lunacy, for when it has been found necessary to administer this sedative by inhalation to persons mentally deranged, its effect, in some cases, has been to develope and drag from their hiding-place hallucinations that were but obscurely manifested.*

* It will be important not to confound the hallucinations and illusions occasionally induced, in persons of healthy minds, by the administration of chloroform, with the delusions of insanity.

The illustrious Lord Erskine observed, when referring to the cunning of the insane, "That in all the cases which have filled Westminster Hall with the most complicated considerations, the lunatics and other insane persons who have been the subjects of them have not only had the most perfect knowledge and recollection of all the relations they stood in towards others, and of the acts and circumstances of their lives, but have, in general, been remarkable for subtlety and acuteness. These are the cases which frequently mock the wisdom of the wisest in judicial trials, because such persons often reason with a subtlety which puts in the shade the ordinary conceptions of mankind; their conclusions are just and frequently profound, but the premises from which they reason, when within the range of the malady, are uniformly false;—not false from any defect of knowledge or judgment, because a delusive image, the inseparable companion of real insanity, is thrust upon the subjugated understanding, incapable of resistance, because unconscious of attack."

A repudiation of the existence of insane thought—the ability for a period to converse continuously, consecutively, and rationally, with great shrewdness and sagacity, on matters requiring for their comprehension a vigorous and well-balanced intellect, are quite consistent with the presence of cunningly-concealed delusions.

Lord Ellenborough expressed, in the course of a judicial inquiry, in the strongest terms, his conviction that an insane person had completely recovered, after having observed him to sustain a lengthened conversation upon an important subject with great good sense and sobriety. Nevertheless, this patient was detected, a few days afterwards, under the full influence of this delusion, using Latin, however, to express his thoughts, that he might effectually elude, if possible, the watchful observation of his attendants.

"The insane," says Esquirol, "group and arrange their ideas, carry on a reasonable conversation, defend their opinions with subtlety and even with a rigid severity of logic, give very rational explanations, and justify their actions by highly plausible motives. When they have a great object to effect, they will combine all their means, seize every opportunity, remove all obstacles, have recourse to threats, force, cunning, dissimulation, prayers, promises, and tears; they deceive the most experienced, their perseverance is indomitable; convinced that what they think is true, that what they wish is just and reasonable, they cannot be convinced of their error. Their conviction is occasionally stronger than their judgment. 'You are right,' said a lunatic to Esquirol, 'but you cannot *convince* ME that you are so.'"

A patient who was confined in a public asylum stoutly and ingeniously maintained that he was considered and incarcerated as insane because nature had blessed him with more acute powers of discernment, judgment, reason, and fancy than his less fortunate neighbours. "I had not, however," he said, "the good sense and prudence to conceal these superior gifts and endowments of mind from the observation, jealousy, and envy of my contemporaries, and was consequently declared to be a lunatic, and sent to and detained in a madhouse."

Are the preceding phenomena susceptible of a psychological solution? In certain types of insanity unconnected with much, if any, cerebral disorganisation, the intellectual and perceptive faculties, although influenced by the prevailing delusions, are in a state of great exaltation. In ordinary cases of disease implicating the brain, producing a state of congestion on the surface of its hemispheres, or a great rapidity in the circulation of the blood through the cerebral vessels, the psychical func-

tions of the anterior lobes are generally in a state of activity.

Dr Pierquin observed, in 1821, in one of the hospitals of Montpellier, a female patient, part of whose skull had been removed. The brain was perfectly motionless when she was in a dreamless sleep. When agitated by dreams, the brain was in a state of active motion. Under these circumstances it actually protruded out of the skull. The same phenomena were observed when she was perfectly awake, if engaged in active thought or sprightly conversation.

In fevers associated with an acceleration of the cerebral circulation, and in the incipient stage of the affections of the brain occurring in early life, the patient often exhibits an unnatural acuteness, occasionally amounting to a brilliancy of intelligence, combined with great sensorial activity. Analogous phenomena are observed in some forms of ordinary cerebral disorder affecting the operations of thought. On this principle we may, in a measure, physiologically and philosophically account for the subtlety and cunning of the insane. But the fact admits of another solution.

The *instinctive* appetites, as contradistinguished from the *intellectual* faculties, are, as a general rule, in a state of exaltation and ascendancy in many types of deranged as well as originally defective and impaired mind. In the various gradations of imbecility, and in some cases of profound idiocy, there are often observed a high manifestation of the instincts. In the lower grades of stupidity and congenital idiocy, we occasionally see the extraordinary sagacity and cunning characteristic of certain animals. Mechanical ingenuity, acute sense of hearing, seeing, and smelling, as well as wonderful powers of adaptation to all possible physical conditions, are often observed among the insane utterly incapable of appreciating a rational idea.

Hence to a certain extent may be explained the subtle *instinctive* sagacity and singular mental acuteness so frequently seen associated with the various forms of deranged mind. In proportion as the reasoning and reflective powers are in an arrested and dormant state, do the instinctive propensities (as a compensating balance) ascend the scale, and, when occupying the seat of reason, arrogate and exercise their apparently legitimate right of undisputed and unbridled sovereignty.*

Dugald Stewart attempts a metaphysical explanation of these phenomena. He supposes they may, to some extent, be attributed to the physical influence of the mental disorder occasioning, together with an increased propensity to controversy, a preternatural and morbid excitation of the power of attention, and of some other intellectual faculties; but much more, in his opinion, to its effect in removing the check of those collateral circumstances by which, in more sober understandings, the reasoning powers are perpetually retarded and controlled in their operation. Among these circumstances, it is sufficient, says this able writer, to specify, for the sake of illustration — 1. "That distrust, which experience gradually teaches, of the accuracy and precision of the phraseology in which our reasonings are expressed, accompanied with a corresponding apprehension of involuntary mistakes from the ambiguity and vagueness of language; 2. A latent suspicion that we may not be fully in possession of all the elements on which the solution of the problem depends; and 3. The habitual influence of those first principles of propriety, morality, and of com-

* "Madness is not simply a bodily disease. It is the sleep of the spirit, with certain conditions of wakefulness—that is to say, lucid intervals. During this sleep or recession of the spirit, *the lower or bestial states of life rise up into action and prominence.* It is an awful thing to be eternally tempted by the perverted senses."—*Coleridge.*

mon-sense which, as long as reason maintains her ascendant, exercise a paramount authority over all those speculative conclusions which have any connexion with the business of life. Of these checks or restraints on our reasoning process, none are cultivated and strengthened either by the rules of the logician or by the habits of *vivâ voce* disputation. On the contrary, in proportion as their regulating power is confirmed, that hesitation and suspense of judgment are encouraged which are so congenial to the spirit of true philosophy, but such fatal incumbrances in contending with an antagonist whose object is not truth, but victory. In madmen, where their control is entirely thrown off, the merely logical process (which never stops to analyse the meaning of words) is likely to go on more rapidly and fearlessly than before, producing a volubility of speech and an apparent quickness of conception which present to common observers all the characteristics of intellectual superiority. It is scarcely necessary to add, that the same appearances, which in this extreme case of mental aberration are displayed on so great a scale, may be expected to show themselves more or less wherever there is any deficiency in those qualities which constitute depth and sagacity of judgment." *

2. SOMATIC EXALTATION.—In the incipient stage of insanity there is great disturbance of the *motor* power. This is often evidenced by general muscular agitation producing a *brusquerie* of manner, producing a striking contrast to the patient's natural state of quietness and repose.

As the mental disorder progresses, he comports himself like a person in a state of incipient intoxication. It is difficult to remove the impression of his being under the influence of stimulants from those who observe his erratic conduct and listen to his wild conversation. His singu-

* "Philosophy of the Human Mind" (1848), pp. 431, 432.

larities of deportment, excited physiognomy, incoherence and extravagance of language, his unnatural elevation of spirits, paroxysmal attacks of exaltation, irregular muscular movements, indicated by his eccentric, odd, rolling, and unsteady gait, naturally suggest the question, "Is he *drunk* or *mad?*"

During this state of physical agitation the patient resembles a ferocious animal removed from his native forest and confined in an iron cage. He paces and repaces the room, night and day, in a condition of extreme perturbation, rarely sitting or standing in a state of repose for many consecutive minutes. He suddenly starts from home, tormented by a peevish irresistible restlessness, a constant, unwearied, never-satisfied desire for change; walking, unfatigued, long distances with great determination, intense fixedness of purpose and vehemence of gesture, without having in view a rational object. His rapid strides, forced and violent movements, appear to originate in an instinctive desire to throw off a morbid accumulation of muscular power, disperse an unhealthy excess of vital irritability, dissipate a redundancy of mental and nervous energy, or keep in a state of subjugation corroding, anxious, and perverted thoughts—

> "All monstrous, all prodigious things,
> Abominable, unutterable, and worse
> Than fables yet have feign'd, or fear conceived,—
> Gorgons, and hydras, and chimeras dire;"

thus relieving the mind of

> "A whirling gulf of phantasy and flame."

In vain the unhappy man struggling with incipient insanity seeks to obtain a mastery over his perturbed thoughts by yielding to an irresistible and uncontrollable desire to rush almost unconsciously from place to place;

fruitless are his efforts to arrest the creation of the gloomy imagery desolating and bewildering his mind, perverting his reason, deadening his sensibility, searing his conscience, benumbing his moral sense, distorting his judgment, deluding his senses, and paralysing his volition. Abortive are his attempts to escape from the "horrible shadows" and "unreal mockeries" that torture and disorder his imagination. Alas! he cannot fly from himself—

"Quid terras alio calentes
Sole mutamus?—Patriæ quis exul
. . . Se quoque fugit?"*—*Hor.*

A convict in Van Diemen's Land, after quarrelling with one of the overseers, brutally murdered him. He immediately escaped with a few clothes and a gun to the wild solitude of the bush. The murderer lived for some time like a savage, occasionally making his appearance, armed to the teeth, at various huts, where he peremptorily demanded food. The convict's mind ultimately succumbed to the severe mental agony and physical distress to which it was exposed, and he became a dangerous lunatic. He was eventually perceived to be under the dominion of a terrible hallucination. He imagined that he was constantly being pursued by the ghastly phantom of his murdered victim.

* A friend observed to Socrates, alluding to a mutual acquaintance afflicted with melancholy, that "he had derived no benefit from his travels." "I am not surprised at that," replied the philosopher, "*for he travelled along with himself.*" Sterne says, "The learned *Smelfungus* travelled from Boulogne to Paris, from Paris to Rome, and so on; but he *set out with the spleen and jaundice, and every object he passed by was discoloured or distorted.* He wrote an account of them, but 'twas nothing but the account of *his own miserable feelings.* I met Smelfungus in the grand portico of the Pantheon. 'Tis nothing but a large cock-pit,' said he. . . . . I popped upon Smelfungus again at Turin on his return home, and a sad tale of sorrowful adventures he had to tell. . . . . He had been flayed alive and bedevilled, and used worse than St Bartholomew, at every stage he had come to. 'I'll tell it,' cried Smelfungus, '*to the world.*' '*You had better tell it,*' said I, 'to YOUR PHYSICIAN.'"

He was observed to rush frantically from tree to tree, bush to bush, house to house, from one part of the district to another, endeavouring to fly (like an animal hunted to death by ferocious bloodhounds) from the clutches of some person constantly in his wake, and steadily tracking his path. The maniac eventually surrendered himself into the hands of the police, alleging that utter annihilation was preferable to the agony of mind which he suffered. In fact (although insane), he prayed earnestly for death at the hands of the public executioner, in order to extricate himself from the frightful spectral image ever present to his mind.

Is it possible to escape from the never-ceasing and agonising tortures of a wicked conscience? What means are there of effectually obliterating that "damned spot" that must ever appear in terrible judgment against inexpiated and unrepented crimes, unforgiven by Heaven and "unwhipt of justice" upon earth?—

> "Exemplo quodcumque malo committitur, ipsi
> Displicet auctori. Prima est hæc ultio, quod se
> Judice nemo nocens absolvitur; improba quamvis
> Gratia fallaci Prætoris vicerit urna."—*Juven.* Sat. 13, v. 1.

If the Almighty, says an eloquent writer, has stamped on the brow of the earliest murderer the indelible and visible mark of his guilt, he has also established laws by which every succeeding criminal (unless pardoned by the grace of God) is not less irrevocably chained to the testimony of his own crime; for every atom of his mortal frame, through whatever changes its several particles may migrate, will still retain, adhering to it through every combination, some movement derived from that very muscular effort by which the crime itself was perpetrated.

"The soul of the negro, whose fettered body, surviving the living charnel-house of his infected prison, was thrown into

the sea to lighten the ship, that his Christian master might escape the limited justice at length assigned by civilised man to crimes whose profit had long gilded their atrocity, will need, at the last day of human account, no living witness of his earthly agony. When man and all his race shall have disappeared from our planet, ask every particle of air still floating over the unpeopled earth, and it will record the cruel mandate of the tyrant. Interrogate every wave which breaks unimpeded on ten thousand desolate shores, and it will give evidence of the last gurgle of the waters which closed over the head of his dying victim. Confront the murderer with any corporeal atom of his immolated slave, and on its still quivering movements he will read the prophet's denunciation of the prophet king—

'And Nathan said unto David—THOU ART THE MAN!'"*

"No disease of the imagination is so difficult to cure as that which is complicated with the dread of *guilt*. Fancy and conscience then act interchangeably upon the mind, and so often shift their places, that the illusions of the one are not distinguished from the dictates of the other. If fancy presents images not moral or religious, the mind drives them away when they give it pain; but when melancholy notions take the form of duty, they hold on the faculties without opposition, because we are afraid to exclude or banish them. For this reason the superstitious are often melancholy, and the melancholy almost always superstitious."†

The Abbé de Rancé became insane from the effects of remorse. He was first in a state of frantic grief. To this succeeded profound melancholy. He dismissed all his friends, and shut himself up in his mansion at Veret, where

* "The Ninth Bridgewater Treatise," by Chas. Babbage, Esq., p. 115.
† "Rasselas, or the Prince of Abyssinia," by S. Johnson, LL.D.

he refused to see a single creature. His whole soul was absorbed in a deep and settled gloom. Secluded in a small room, he even forgot to eat and drink; and when the servant reminded him that it was bed-time, he started, as from a deep reverie, and seemed unconscious that it was not still morning. A faithful servant, who sometimes followed him by stealth, often watched him standing for hours in one place, like a statue, the snow, rain, and pitiless storm mercilessly beating on his poor head, whilst he, unconscious of the wild fury of the elements, was wholly absorbed in the gloomy silence of black and hopeless despair.

Happily, there are many cases of insanity, even in the incipient stage, where the mind is intensely abstracted and thoughts pre-occupied in the contemplation of the most glowing, richly poetical, fanciful, and joyous imagery, the morbid imagination exalting its possessor into the purest and most elevated ethereal regions. The patient revels in the luxury of vast imaginary hoards of wealth; is elevated to positions that confer upon him the highest amount of physical enjoyment and the maximum degree of intellectual gratification that he is susceptible of. He is in fancy a monarch—"every inch a king"—ruling over the destinies of a great nation, having at command undisputed and despotic sovereignty. Occasionally he is in imagination not only the emperor of a great and powerful nation, happy, contented, and prosperous people, but sole arbiter and monarch of the universe, ruling, governing, and having under his exclusive control and subjection every kingdom, civilised and uncivilised, on the face of the globe. At other times he is an angelic being, enjoying all the rapturous pleasures and ecstatic bliss of the redeemed in a brighter and purer state of existence.*

* Horace describes the feelings of a lunatic, brought down, by a restora-

"In this stage of exaltation," says Pinel, "the patient overwhelms those about him with his extraordinary loquacity. If he comes into a room he turns everything upside down; he displaces and shakes the chairs and tables without seeming to have any particular motive for so doing. Scarcely have you taken the eye off him, when you perceive him on the promenade, and there, as aimlessly busy as in the room, he chatters, throws stones, and walks up and down the same way over and over again. Another

tion of reason, from the happy Elysium into which his morbid fancy had transported him, to the regions of poor common humanity—

"Pol! me occidistis, amici,
Non servastis, ait, cui sic extorta voluptas
Et demptus per vim mentis gratissimus error!"

"I always expected," said a patient to Dr Willis, "with impatience the accession of the paroxysms of insanity, since I enjoyed, during their presence, a high degree of pleasure. They lasted ten or twelve hours. Everything appeared easy to me. No obstacles presented themselves in theory or in practice. My memory, all of a sudden, acquired a singular degree of perfection. Long passages of Latin authors occurred to my mind. In general I have great difficulty in finding rhythmical terminations, but *then* I could write in verse with as much facility as prose. I was cunning, malicious, and fertile in all kinds of expedient."—*A Treatise on Mental Derangement. By Francis Willis, M.D.* 1843.

"It has been well observed that nothing indeed can weigh in the smallest degree against mental sickness—against that state in which the imagination is only active as the agent of cruelty—in which conscience, always alive to guilt, is now furnished with the tormenting implements of fancy and fear—when there are no distinct impressions upon the brain but those of misery—when all besides this is indistinctness, tumult, hurry, distraction!"

"Can that be called happiness which seems to deprive man for a time of the destiny of his being and link him with perishable matter—which severs the bond of social and domestic affection, and places a bar of separation between man and his fellow-man? Surely no vividness of pleasureable feeling, no exaltation of the fancy, even to the highest pitch of giddy delight; no exclusion, however complete, from the actual misery of the world, can compensate, in any measure, for the deprivation of consciousness, or cause mental alienation to be contemplated in any other light than as a most distressing and heartrending spectacle."—*Quar. Rev.*

speaks alternately of his horses, dogs, garden, and his wig, without waiting for an answer, or giving the hearer time to follow his rhodomontade. He rambles about his grounds like an *ignis fatuus*, cries out, gabbles, torments his servants with trifling orders, his relations with absurdities; and the next moment no longer knows what he has said or done."

The preceding *résumé* conveys only a general idea of the precursory symptoms of insanity as far as they relate to morbid cerebral or mental excitement. This state of mind, however, is also premonitory of other affections of the great nervous centre not associated with aberration of the ideas.

It frequently precedes ordinary attacks of *meningitis* as well as *cerebritis*. It is observed in those cerebral affections that occur in childhood, and the symptom is also characteristic of those conditions of the brain so commonly associated with attacks of acute as well as of low typhoid fever, producing great rapidity of the cerebral circulation, depression of the vital and exhaustion of the nerve force.

Apoplexy is frequently preceded by mental excitement. For some days prior to an attack of this disease the patient has been known to exhibit symptoms of unusual irritability and irascibility.

In one peculiar and often fatal type of insanity, general paralysis of the insane, the premonitory stage is marked in many cases by exalted, grand, and ambitious delusions, referring principally to wealth, social position, worldly honours, mental and physical capacity. For a long period, before any mental disorder is suspected, the ideas are only absurd and extravagant. The patient talks of the amount of money he has made, of the success of his commercial speculation, his good fortune, extraordinary luck, and of the bright future in store for himself and family. He magnifies the amount of his daily or weekly receipts, whether realised in the practice of a profession, in trade, or

commerce. This tendency simply to distort facts, and look extravagantly at the bright side of everything, through an intensely-magnified and highly-coloured because *morbid* medium (when the actual circumstances of the party do not in the slightest degree justify such exalted ideas), exists occasionally for several years before the mind presents decided symptoms of alienation.

CHAPTER IX.

STAGE OF MENTAL DEPRESSION.

"Loathed melancholy,
Of Cerberus and blackest midnight born,
In Stygian cave forlorn,
'Mongst horrid shapes, and shrieks, and sights unholy."

In the early stage of this type of insanity the patient is at first seen to mope, then heard to complain of extreme *ennui*, and subsequently becoming abstracted, moody, and sullen, acute morbid depression manifests itself.

This condition of mind often exists for some time before mental delusions are recognised, or derangement of the moral and perceptive faculties occur.

It is in some cases extremely difficult to draw the line of demarcation between ordinary attacks of *ennui*, the more severe types of hypochondriasis and the mental depression symptomatic of the commencement of insanity, so insidious is the advent, so imperceptible the stealthy march of this form of mental disorder.

There are few morbid mental conditions so fatal in their results as these apparently trifling, evanescent, and fugitive attacks of depression, for they are occasionally associated with a disposition to self-destruction.

These slight ruffles on the surface, apparently unimportant attacks of mental despondency, and trifling paroxysms of morbid *ennui*, accompanied, as they frequently

are, with intense weariness of life, a desire for seclusion, love of solitude, and longing for death, are indicative of morbid states of the brain and mind, and are fraught, unless checked, with fatal mischief to reason and to life. How much of this character of disordered mind not only escapes observation, but is subjected to no kind of medical treatment or personal supervision.

Occasionally it happens (but how rare is the occurrence) that the unhappy suicide has exhibited no symptoms of observed mental derangement prior to the fatal act, but even in these cases we should be cautious in concluding that the mind was free from disorder at the time of the suicide.

Insane persons are often impelled to self-destruction by the crushing and terrifying influence of a concealed delusion that may have been for weeks, and perhaps months, pressing like an incubus upon the disordered imagination. Patients admit that they have been under the influence of monomaniacal ideas and terrible hallucinations for a long period, their existence not being suspected even by their most intimate associates.*

The narrative of the poet Cowper, in which he describes his mental condition during one of his paroxysms of suicidal melancholia, is touching and instructive. Such intolerable anguish, impulse to self-destruction, and vain struggles to resist or bravely endure mental torture, induces the unhappy sufferer to exclaim—

> "O wretched state! O bosom black as death!
> O liméd soul, that, struggling to be free,
> Art more engaged! Help, angels, make assay!"

---

* A patient walked for some hours about the streets of London during the general illumination in honour of the Prince of Wales' marriage, who imagined that the gentleman who accompanied him in his perambulations was a woman dressed in man's clothes. At that time no one had the slightest suspicion that this person was insane, so cunningly and cleverly had he concealed his condition of mental aberration.

Are not these cases more generally prevalent than we imagine? May we not say of the unhappy man with a mind tortured and driven to despair by a concealed hallucination or unobserved delusion, urging him to the commission of suicide as the only escape from the acuteness of his misery—

> "HE hears a voice WE cannot hear,
> Which says, HE must not stay;
> HE sees a hand WE cannot see,
> Which beckons him away?"

This morbid condition of the intelligence is observed as one of the precursory signs of organic disease of the brain unallied with insanity. Acute softening, cerebral hemorrhage (apoplexy), general paralysis, and cerebral tumours, are occasionally found in the early stage associated with severe depression of mind. Inflammatory as well as white softening of the brain is often preceded by great lowness of spirits, occasionally amounting to acute melancholia.

CHAPTER X.

STAGE OF ABERRATION.

INCIPIENT aberration may manifest itself in—

1. *The Intellectual Faculties.*
2. *The Perceptive Faculties.*
3. *The Moral Faculties.*

I have already referred to the contests which so frequently occur in the mind, to some extent off its balance, with impressions clearly morbid, but not actually insane in their character. This is an incipient stage of aberration.

THE INTELLECTUAL FACULTIES.—How obscure, gradually progressive, subtle, and insidious are the approaches of insane thought. At what period does the exaggerated, false, and eccentric conception traverse the fatal boundary-line separating the sane from the insane mind, and become, instead of an erroneous notion, illogical conclusion, error of judgment, mistaken conviction, absurd and extravagant idea—an insane delusion, a morbid *creation* of the distempered and diseased imagination?

In tracing the first period of the evolution of a fixed idea, Falret says the physician witnesses one of the most curious spectacles imaginable. He sees a man the prey of a disposition imposed by this malady, striving from time to time to rid himself of it, but ever falling back under its tyrannical influence, and constrained by the

laws of his mind to seek for some form under which to give it a body and a definite existence. He will be seen successively to adopt and repel the divers ideas which present themselves to him, and laboriously strive to deliver himself of a delirium which shall be the expression, the exact image, of an internal condition of which he himself, after all, suspects not the existence. This first phase in the evolution of the fixed idea, this gradual and progressive creation of delirium, constitutes the period of incubation of insanity.

A man when in a disordered state of health receives an offence, perhaps a series of affronts trifling in their character. His mind at first dwells slightly upon the fact. He then allows the impression to absorb the attention to a degree quite incommensurate with its importance, other trains of healthy thought being rigidly excluded from his contemplation. This notion eventually becomes extravagant and exaggerated. The injury which in the first instance was considered trivial and insignificant, assumes (as the mental disease progresses) a grave and significant character in the estimation of the person whose mind is almost exclusively occupied in its morbid consideration. The intellect yielding to the severity of the strain thus imposed, the general health becomes deranged, and the idea which was originally only an extravagant conception, becomes a fixed, settled, and an insane one, the derangement of mind consisting, not in a creation of the fancy *de novo,* but in a morbid exaggeration, distortion, and insane perversion of existing circumstances and actual facts.

Our great English moralist, Dr Johnson, has traced with the hand of a master the insidious advances of deranged thought:—"Some particular train of idea fixes upon the mind, all other intellectual gratifications are rejected; the mind in weariness or leisure recurs constantly to the

favourite conception, and feasts on the luscious falsehood whenever it is offended with the bitterness of truth. By degrees the reign of fancy is confirmed. She grows first imperious, and in time despotic. These fictions begin to operate as realities, false opinions fasten upon the mind, and life passes in dreams of rapture or of anguish."*

THE PERCEPTIVE FACULTIES.—The perceptive powers are often the first to show evidences of disease.

A lady, fifty years of age, the wife of a merchant, well educated, head large, temperament bilio-lymphatic, experienced several family misfortunes, which gave rise to much bodily ill-health and to a restless and irritable state of mind. The first indication of actual delusion and insanity was the appearance of a transient halo around whatever she was engaged in reading, and ultimately encircling every object she steadfastly regarded. Her false perceptions became subsequently more numerous. She walked with difficulty in consequence of the impression which she had, that a smooth surface was an irregular one, that deep chasms constantly occurred in the floor, over which it was necessary for her to stride, that the height of one step of the stair was greater than that of another, or that she tottered on the brink of a precipice. Noises which were scarcely perceptible to others annoyed her very much, both from their supposed loudness and harshness, as well as from their resembling voices addressed to her in conversation. Her language was likewise affected. She had a difficulty in recalling expressions, and misapplied or misplaced such as she used. Her memory of facts was much impaired. She was not cleanly in her habits, nor careful as to the arrangement of dress. These symptoms were occasionally entirely absent when she regained her original acuteness and

* Rasselas.

intelligence; but even when they were present, and inspired her with fear and anxiety, she doubted the reality of the sensations she received, and appealed to those around her for confirmation and assistance. While in bed or resting recumbent, she was rarely annoyed by these delusions; but upon getting up, or upon any sudden change of position, she was surrounded by luminous spots, vacillated in her gait, was for an interval incapable of attending to any external object, and of disabusing her mind of those perceptions, or of the fear and agitation which they created—a circumstance which led her former medical attendant to suspect organic disease of the brain. She complained of exquisite pain across the lower part of the forehead and temples; and so intense were her sufferings that she was unable to bear the weight or even the touch of glasses which she was accustomed to wear.*

The mind occasionally exhibits evidence of aberration in the precursory stage of *cerebral*, as contra-distinguished from *mental* disease, particularly in congestive and inflammatory conditions of the brain and its membranes. Illusions of the senses as well as delusions of the mind are sometimes noticed among the incipient symptoms of acute affections of the encephalon.

A state of mental terror and alarm, vague, shadowy, and undefined notions of approaching evil, often precede aberration of intellect, the patient imagining that some dreadful, inexplicable, and mysterious doom is impending, or that some serious catastrophe is about to occur.

Inflammation of the brain is often preceded by a perversion of the sense of smell, and illusions of sight and touch. Bouillard, Parent Duchatelet, and Martinet, relate several interesting cases illustrative of these phenomena.

An eminent artist died of softening of the brain. The

* "Phrenological Journal," vol. xiv. pp. 77, 78.

cerebral symptoms exhibited themselves several years previously to the attack, in the form of flashes of light before the eyes, and to these were afterwards added pains in the head and diminished distinctness of vision. These symptoms gradually increased till his sight was totally destroyed. The morbid phenomena, however, which chiefly annoyed this unfortunate gentleman consisted of a series of the most dazzling images perpetually playing upon the optical apparatus by day and by night. Their brightness was unspeakably distressing. Sometimes they would assume the forms of angels with flaming swords, every motion of which seemed, like an electric flash, to blind the eye and sear the brain by the intensity of their light. The forms and shades, however, of these spectral images were perpetually changeing, but without any mitigation of the sufferings which they produced. With the exception of some irritability of temper there was not the slightest affection of the intellectual powers. The memory, imagination, and judgment were unimpaired. He was led about the streets by one of his servants, and he attended to all matters, where his sight was not engaged, with the greatest punctuality. The eyes presented no physical appearance of disease.

The symptoms above mentioned were mitigated from time to time by counter-irritation to the nape of the neck, leeches to the temples, and aperient and diuretic medicines. In the spring of 1835, however, he was seized with all the usual symptoms of apoplexy. He lay in bed in a motionless and insensible state. The pupils were dilated and the power of speech paralysed. To the astonishment of his medical attendants, he rallied from this condition of severe cerebral disorder, and after a few weeks was able to walk to the city and transact business as usual. But the spectral images of dazzling and exquisitely painful brightness returned with, if possible, increased intensity. In the month

of August he was again suddenly seized with the apoplectic symptoms similar to those previously mentioned, and, notwithstanding the same means were employed as on the former occasion he died at the end of three or four days from the commencement of the attack.

The body was examined on the day after his death. There was nothing unusual in the membranes of the brain. The right lateral ventricle contained nearly two ounces of clear fluid. The left ventricle was occupied by a series of hydatid-like cysts of various sizes, and filled with fluids of various consistencies and colours. This cluster sprung from the floor of the ventricle by a kind of peduncle, and penetrated into every sinuosity of the cavity, pushing its branches anteriorly so as to pass over and before the thalamus nervi optici of that side, and even into the opposite hemisphere of the brain, destroying those portions interfering with its march. Both thalami were reduced to a pulp, as was indeed the whole of the anterior lobes of the brain, which would scarcely bear the slightest handling without falling into a state of deliquescence. The optic nerves were pressed upon by the cystic or hydatid mass and reduced to little more than the size of threads, and these of very soft consistence. There was no change in the coats or humours of the eye.

The most remarkable phenomenon present in this case was the intense brightness which always accompanied the spectral images. Irrespectively of their shape, the dazzling and painful splendour never forsook them. These symptoms rendered the patient's life for some years one of dreadful suffering.

It was considered singular that the intellectual faculties should have remained entire while the anterior lobes of the brain were undergoing the process of softening which they displayed on dissection. "Did this *ramollissement* take

place," asks the narrator of the case, "during the three or four days of apoplexy prior to death? If it existed long before the fatal event, there will be some difficulty in accounting for the integrity of the intellectual faculties up to the time of the apoplectic seizure. Was the serous effusion into the right ventricle the cause of the apoplexy or the consequence of it?—or was it a gradual accumulation, and not mainly instrumental in the final catastrophe? What was the cause of the first attack of apoplexy, and why did he recover from it?"*

A farmer in the neighbourhood of Edinburgh, accustomed to drink freely, was invited to the funeral of a friend. He took a dram before he left home, and another at the house of his deceased friend. He had some of his acquaintances at dinner, with whom he continued to carouse until late at night. On the following morning he imagined he heard five hundred people talking at once. He compared what he heard to the confusion of tongues at Babel. Portending the utmost danger from this sensation, he hurried across the farmyard, and desired the surgeon who attended his family to be sent for without delay; and soon afterwards he became insensible. When the surgeon came, he bled him freely, and sent to Edinburgh for a physician. When that gentleman arrived, the patient was a little relieved, but still he laboured under considerable stupor. He was again bled, and a third time the next morning. In a few days he was restored to health.†

Morgagni mentions the case of a man who, working at night in a cesspool attached to an hospital, suffered from a strange hallucination. He fancied he saw a spectre clothed in white. On his death, which quickly supervened, it was

* Recorded by Dr James Johnson, in the "Medico-Chirurgical Review."

† "Cases of Apoplexy and Lethargy." By J. Cheyne, M.D. P. 83.

discovered that he was labouring under venous congestion and cerebral softening.

Dr Alderson attended a patient who had been attacked, during a voyage from America, with violent headache. He was relieved by the formation of an abscess beneath the integuments of the skull. His breathing was somewhat affected by other tumours which had formed in the throat. He complained of having fatiguing dreams, and even of dreaming when awake. A short time afterwards he said that for the space of an hour or two he thought he saw his wife and family, although convinced by his reason that they were in America. The impression on his mind was so strong, and the conversation he had held with his son so circumstantial and important, that he could not resist telling it in all its details to his friends on the following day. He also desired to be informed if his wife and family had not arrived from America, and whether they were not in the same house. On a second visit, the patient quickly perceived that he was considered deranged, and inquired if his disease could induce a belief in spectres, apparitions, and figures. "Until now," said he, "I had no faith in all the stories of this character." He knew that he was perfectly sane, and that his friends also acknowledged him to be so, with a mind as strong as it had ever been. The nature and cause of his visions were explained, and when told that his symptoms would cease with his bodily sufferings, both he and his friends grew composed. But the phantoms became more and more importunate, until he could not make up his mind to retire to rest, because he was immediately harassed by the souls of the dead, or visited by persons disagreeable to him. Having changed his room, the visions ceased for some time; but he soon perceived his friends of the New World pictured as on a piece of polished metal. When apparently unobserved, he was detected mentally

conversing with them, and at times evidently imagining the physician talking to him also saw and heard them. When he looked away from the polished bar, he talked sensibly on religion, medicine, and politics. At length he changed his residence, when, the purulent matter being discharged, his condition was ameliorated. He became convalescent, and was eventually entirely relieved of his phantoms.*

A patient who consulted Dr Hibbert made the following extraordinary statement:—"I am in the habit," he said, "of dining at five, and exactly as the hour arrives I am subjected to the following painful visitation. The door of the room, even when I have been weak enough to bolt it, which I have sometimes done, flies wide open; an old hag, like one of those who haunt the heath of Forres, enters with a frowning and incensed countenance, comes straight up to me with every demonstration of spite and indignation which could characterise her who haunted the merchant Abudah in the oriental tale; she rushes upon me; says something, but so hastily that I cannot discover the purport; and then strikes me a severe blow with her staff. I fall from my chair in a swoon, which is of longer or shorter endurance. To the recurrence of this apparition I am daily subjected. And such is my new and singular complaint." Dr Gregory immediately asked whether his patient had invited any one to sit with him when he expected such a visitation. He was answered in the negative. The nature of the complaint, he said, was so singular, it was so likely to be imputed to fancy, or even to mental derangement, that he had shrunk from communicating the circumstance to any one. "Then," said the doctor, "with your permission I will dine with you to-day *tête-à-tête*, and we will see if your malignant old woman will venture to

* "Edinburgh Medical and Surgical Journal," vol. vi. p. 291.

join our company." The patient accepted the proposal with hope and gratitude, for he had expected ridicule rather than sympathy. They met at dinner, and Dr Gregory, who suspected some nervous disorder, exerted his powers of conversation—well known to be of the most varied and brilliant character—to keep the attention of his host engaged, and prevent him from thinking of the approach of the fated hour to which he was accustomed to look forward with so much terror. He succeeded in his purpose better than he had hoped. The hour of six came almost unnoticed, and it was hoped might pass away without any evil consequences; but a moment had scarcely elapsed when the owner of the house exclaimed, in an alarmed voice, "The hag comes again!" and dropped back in his chair in a swoon, in the way he had himself described. These periodical shocks were clearly established to arise from a tendency to apoplexy, and after the brain was relieved by the abstraction of a small quantity of blood, the patient entirely recovered.

Immediately before an attack of epilepsy, a patient imagined he saw a little old woman in a red cloak run up to him and give him a severe blow on the head. A gentleman who was subject for nine years to epilepsy, previously to his attack was, as he expressed it, suddenly seized with a peculiar train of thought, which was not intelligible to him, but caused him intense anxiety. The ideas were always of the same character; and whilst he was in the act of making an effort to disembarrass himself of them, the paroxysm of epilepsy took place.

"A man, aged fifty-seven, who having up to that time led a grave and even austere life, abandoned himself to the pursuit of amusements unsuited to his age, and was a few months after seized with sudden and complete apoplexy (*apoplexie foudroyante*). A person, most estimable for

mental endowments, and for the qualities of his heart, called one day on his physician to converse on subjects not relating to his health. His conversation was clear; nothing morbid was indicated in his gait; but he had for a long time complained of inaptitude for work. Whilst occupied in writing, his medical adviser saw him rise, rummage a drawer in the room, and open a note. This act, on the part of a person of the most polite and discreet habits, struck him forcibly. During the revolution of February, this gentleman, holding an important post in the administration, had engaged, from the most disinterested and praiseworthy views, in public agitation, from which his mind had received strong impressions. Three months afterwards the patient lost his sight, after attacks of violent headache, and subsequently died with all the symptoms of cerebral softening.

Perversions of the Moral Sense.—Insanity and other forms of cerebral disease often manifest themselves in the early stage by aberration and perversions of the moral sense. For some time prior to the development of derangement of mind or disease of the brain, patients have been known (contrary to their usual habits) to indulge in gross sensual excesses, to exhibit states of moral decadence, weakened and paralysed volition; to be guilty of acts of private and public indecency, dishonesty, debauchery, and beastly intemperance. These symptoms may exist for a considerable length of time before insanity fully declares itself.

Dr Brierre de Boismont relates the case of a merchant, aged forty-six years, whose conduct had previously been honourable, who was taken to his establishment in 1846 on account of acts of licentiousness of which he had been guilty over a period of half a year, and which were so entirely opposed to his usual habits that his family, painfully affected by his conduct, thought that it must be attributed to some mental derangement.

For several months, however, he had given himself up to speculations, of which many had failed. Even at the time when attention had been aroused by his disordered actions nothing in his discourse and manner of living had excited any suspicion of mental disturbance. He visited the Bourse daily, had numerous communications with persons of his own calling, but none of them had perceived his mental state, or, at least, no one had pointed it out.

When he was taken to the physician he neither showed any emotion nor manifested any astonishment at being transferred to an unknown house. He was spoken to first in reference to the acts which had led to his being placed under control. He answered, speaking carelessly, and as if the matter did not concern him, "That alarm had been too readily taken, and that everything would be explained." He was interrogated about his business, and the position of his affairs. To these questions, which did not seem to surprise him, he to all appearance responded rationally but somewhat evasively, and gave no explanation. Allusion was made to certain of the points on which information was wanted, and he said—"My business affairs, like other commercial matters, are both good and bad; I have not to complain of them. My family behave well to me; my position is satisfactory, and my health is very good." On attempting to question him more closely, he then responded —"I do not know; I cannot call to mind." Not being able to elicit anything more from him, the conversation terminated, and he wished to be allowed to visit the Bourse. This request not being acceded to, he left, as if the refusal were a matter of trifling importance, and went into the garden.

During this conversation it was evident that the attention was enfeebled, the memory confused, and consciousness modified, but no embarrassment of speech, disorder in

the movements, nor manifest incoherence was observed. The conclusion was, that he was under the influence of general paralysis, and his relatives were informed that grave consequences were to be apprehended, not only to his life, but also to his fortune.

Dr Boismont says, continuing the history of the case—"The examination of his books was a thunder-stroke. They were badly kept, showed great omissions, and the only certain information to be obtained from them was that ruin was imminent. The commercial position of the unfortunate man presently, however, assumed a more serious cast. The judges of the Tribunal of Commerce pronounced on his affairs a verdict of fraudulent bankruptcy, and directed his arrest; and an officer of the court presented himself at my establishment with the necessary mandate. I conducted him to the patient, in whom, in the space of three weeks, the following changes had taken place. His memory was entirely lost, and he could not respond to any questions put to him. His look was stupid and his figure immobile. Already embarrassment of the speech might be noted, and feebleness of the legs showed positively that he suffered from paralysis, and that the habitual excitation of his life had been masked by mechanical movement. I declared to the officer that in the state in which the patient then was I could not permit him to execute the mandate; and I admitted that from the rapidity with which the affection had proceeded it was almost certain that a serious termination would very shortly occur. I prepared a certificate to this effect, and forwarded it to the President of the Tribunal of Commerce, and the arrest was adjourned until the re-establishment of the patient's health. Three months afterwards this patient died in the last degree of brutishness and marasmus.

"A railway clerk was confided to my care in 1847 to be

treated for general paralysis, which had reached an advanced stage. The stammering was marked, there was inequality of the pupils and feebleness of the inferior extremities, and the gait was vacillating. The memory was weakened, yet the patient conversed rationally; but if he were interrogated upon his health, his position, or his profession, great exaggeration was noted. According to his own account, he was perfectly well, gained much money, and performed fully the duties of his situation. After the fashion of many of these patients, he gave no attention to external events; he did not manifest any astonishment that he was placed in an asylum; he ate with avidity, and took no part in that which passed around him. On examining his accounts, an abuse of confidence was discovered, and legal proceedings were commenced against him. He was requested in my presence to give an explanation of the malversations he had been guilty of, and to state the use to which he had applied the missing funds; but the only reply which he would give was this:—'That money belonged to me; I earned it by my assiduity in work, and by the improvements which I have introduced into the establishment.' It was in vain that attempts were made to convince him of the falsity of this reasoning; he would repeat imperturbably that the money was his. This opinion will not surprise alienists, because they know that many of these unfortunates have the conviction that they are millionaires, or that everything belongs to them. It was important to ascertain when the first indications of this patient's malady had become manifest. After some trouble I ascertained that fifteen months before a change in his habits had been observed. Little by little it had been noted that the memory was occasionally defective, that he entertained exaggerated ideas of his position, and that he was

affected by a momentary embarrassment in his speech; but as he fulfilled the duties of his place with regularity, these symptoms had not been much heeded. The subtractions had gone on for eight months, but the inquiry concerning them was of necessity abandoned on account of the rapid progress of the general paralysis. The incoherence became complete; he barely responded when addressed; he kept himself erect with difficulty, and he succumbed to the cerebral marasmus after two months' residence in the asylum."*

"A person high in office had performed the duties of his station up to the time when I was consulted, and yet the details which were furnished to me by his wife left no doubt that his moral and affective faculties had been for some time impaired. From having been generous and honest, he had for more than six years exhibited great sordid avarice and unbridled licentiousness. With the progress of the disease his avarice was manifested in mean actions; he refused to pay his debts, maintaining that he had already done so; and even purloined objects from the houses of his acquaintances. Until the last-named acts were committed no one had suspected that his mind was disordered. Some time after, I was called in consultation to see a retired public officer whose thefts had made much noise some years previously. The particulars with which I was furnished regarding this patient inclined me to believe that he was labouring under the premonitory symptoms of general paralysis. I felt certain that such was the fact. On my introduction to the patient, the first words that he uttered fully established the correctness of my anticipations. His delinquencies had been observed eight years pre-

* Dr Brierre de Boismont.

viously. His mental alienation was only recognised a few months ago."*

A woman, aged forty-two, for a year and a half gradually fell into a state denoting general softening of the brain, manifesting almost entire blindness, inability to walk, and semi-imbecility of intellect. Two years afterwards she felt severe and almost constant pain in the head; her general health was in other respects perfectly good, and her intellect clear. *Three* years previously this woman, though possessed of an ample competency, *committed a petty theft at a fair.* This was the first symptom of her approaching cerebral disease.†

* "Gazette Médicale de Paris." 1847. P. 393.

† Dr Brierre de Boismont.

CHAPTER XI.

IMPAIRMENT OF MIND.

I PROPOSE to consider this subject in the following order:—

1. *General Weakness of Mind.*
2. *Morbid Phenomena of Attention.*
3. *Morbid Phenomena of Memory.*

GENERAL WEAKNESS OF MIND.—The intellect often exhibits evidences of general prostration and debility long before any serious disorder of the brain is suspected. This condition of cerebral lassitude, mental sluggishness, psychical weakness and impairment, is in many of its features analogous to the torpor of mind that frequently supervenes upon certain acute forms of bodily disease, particularly those of a febrile character implicating the nervous functions.

In this state of mental ill-health the patient is conscious of a want of brain tone, sluggish action of mind, and of a deviation from his normal condition of intellectual acuteness, activity, and vigour. He is painfully sensible of feeling mentally *below par*, and recognises his inability to use efficiently his powers of mind. He suffers from a torpid state of the intellect, a mental *malaise* unfitting him for any kind or degree of cerebral work. The effort to think is irksome and painful, causing,

if persevered in, vertigo, headache, painful confusion of thought, and acute mental depression.

In this condition of nervous exhaustion the invalid is incapable of exercising for any lengthened period continuity of thought, and at times he is quite unable to think at all. This mental prostration disqualifies him for any occupation requiring the active use of the intellectual powers. He throws aside his favourite books, and even the newspapers, formerly a source of so much pleasure, become devoid of interest and distasteful. He neglects his ordinary vocation, feeling in mind *blasé*, and only able to sit quietly in a state of gloomy abstraction, or saunter about in a condition of gloomy reverie. These symptoms are consequent upon an over-strained and unduly-exercised mind.

Men naturally of the most active understandings, of a high order of intelligence, and capable when in health of a considerable degree of sustained and vigorous intellectual labour, have been reduced to a sad state of mental impairment and precocious senility, the result of anxiety, or effect of excessive and severe cerebral activity.

Under these circumstances the patient's mind is easily fatigued. His condition of failing intellect is recognised by the difficulty which he experiences in preserving intact the sequence of ideas and chain of thought. His memory either wanders or is incoherent in its associations. All power of healthy mental *combination* is lost or greatly impaired. The mind has no fixed hold upon its conceptions, and, in consequence of an enfeeblement of the will and weakened power of attention, the ideas are under the influence of the most casual and accidental circumstances. In general terms, all balancing or co-ordinating psychical power appears to be gone.*

* Among the incipient symptoms of softening of the brain and apo-

This morbid condition of intellect is generally associated with, and in a great measure dependent upon, a depressed, debilitated, and exhausted state of the vital and nerve force. The blood is impoverished in consequence of being deprived of some of its important organic elements, and the whole system suffers from *anæmia*. The countenance assumes a pallid, haggard, lifeless, and exsanguine aspect. The assimilative functions are disordered, and the patient sometimes becomes seriously emaciated. Such is often the physical state of those whose minds have been prematurely exhausted. This phase of mental and bodily ill-health, in the majority of cases, speedily yields to the judicious administration of stimulants and blood-tonics, associated with appropriate moral treatment, provided no serious *structural* mischief has commenced in the brain.

The symptoms, however, previously detailed are occa-

plexy are occasionally observed a torpor and prostration of intellect, exhibited in an inability to undertake any kind and degree of mental work. The patient complains of a deficiency of mental power, an exhausted state of the nervous energy, the brain appearing to have lost its healthy tone and stamina.

M. Gendrin says—"Apoplectic attacks are often preceded for some days by a difficulty in executing intellectual work, by an incapacity for unusual attention, by an extraordinary irascibility, by a morbid weakness which exaggerates impressions, and produces terrors without a cause, or by unreasonable anxiety concerning ourselves or those related to us." *

These premonitory symptoms are not observed in every case of impending cerebral hemorrhage, for many patients appear capable of severe brain or mind work up to the moment immediately preceding the apoplectic or paralytic fit, but in many cases this conscious diminution of vigour of brain and impairment of mind are important premonitory signs of approaching acute paralytic and apoplectic seizures. The symptom, however, is present in other states of disease of the brain. Should this condition of mind be associated with giddiness, headache, depressed spirits, aberration or impairment of vision, or a slight sensation of numbness (even if circumscribed) in any part of the body, the patient may well be anxious as to the state of his cerebral health.

---

* "Traité Philos. de Méd. Prac." Tom. i. p. 487.

sionally precursory of formidable attacks of organic disease of the brain, and are to be viewed, in some cases, as symptomatic of the existence of cerebral tumours, softening, abscess, induration, and other formidable types of encephalic disorganisation.

In the early stage of general paralysis, the patient *acts* as if he had (mentally) lost all self-confidence. He rarely acknowledges such to be his condition. His conversation and deportment evidence a state of enfeebled mind, paralysed or vacillating will. These symptoms may exist for years prior to the development of any positively diagnostic signs of disease of the brain or disorder of the mind.

CHAPTER XII.

MORBID PHENOMENA OF ATTENTION.

THIS subject will be analysed as follows:—

1. *Impairment of attention.*
2. *Heightened or exalted attention.*
3. *Concentration of the attention.*

Attention is one of the most important faculties of the mind. Without its possession, the understanding would be a blank. If we had no voluntary capacity to direct the thoughts to objects of consciousness, how abortive would be the attempt to expand, discipline, and improve the understanding.

"The difference," says Sir W. Hamilton, "between an ordinary mind and the mind of Newton consists principally in this, that the one is capable of the application of a more continuous attention than the other; that a Newton is able, without fatigue, to connect inference with inference in one long series towards a determinate end, while the man of inferior capacity is soon obliged to break or let fall the thread which he had begun to spin. This is, in fact, what Sir Isaac Newton, with equal modesty and shrewdness, himself admitted. To one who complimented him on his genius, he replied, 'that if he had made any discoveries, it was owing more to patient attention than to any other talent.'"*

* Lectures on Metaphysics.

No sound knowledge of objects exterior to ourselves, right appreciation of normal conditions of consciousness, or accurate insight into the phenomena of thought, can be obtained without the power of concentrating by an act of volition the attention upon subjects under the immediate contemplation of the understanding. Observation and reflection (two of the most important of the mental faculties) would have no existence apart from the possession of the power of directing and controlling the attention. The able, intelligent, learned, and sagacious man has this faculty of the mind fully matured and developed. It is essential that such should be the case.

The dull, vapid, and uninformed understanding exhibits this intellectual power in a very feeble state of development, and its absence induces great intellectual weakness. The mind so organised has no power of concentrated thought. Objects are *seen*, but not *observed*. All power of reflection appears to be destroyed. He who has this faculty in the greatest activity and subjection is best fitted to acquire and mentally retain the knowledge which, if properly applied, elevates him to political, professional, and social positions of influence, usefulness, and authority. Without the power of continuity of thought, and ability to direct the attention by an effort of the will to subjects of contemplation, no effectual intellectual progress can be made.

"Genius," says Helvetius, "is nothing but a continued attention (*une attention suivie*). "It is," says Buffon, "only protracted patience (*une longue patience*)." "In the exact sciences at least," says Cuvier, "it is the patience of a sound intellect, when invincible, which truly constitutes genius." Lord Chesterfield says, "that the power of applying the attention steadily and undissipatedly to a single object is the sure mark of a superior genius."

How desirable it is that this faculty should be perseveringly cultivated, and, when fully developed, carefully and zealously preserved from injury.*

"Attention forms the great link between the intellectual and moral departments of our nature, or between the percipient and what has been named the pathemic departments. It is the control which the will has over this faculty that makes man responsible for the objects which he chooses to entertain, and so responsible for the emotions which pathologically result from them.

"The mind can be weaned from the influence of evil affections by the withdrawment of its thoughts from those objects which both excite and supply the means of their gratification, and wooing the attention to other objects by which good emotions are awakened to occupy the whole man, and displace those hurtful sensibilities which war against the soul. It is thus that attention becomes the great instrument of moral discipline; and it is because of the command which the will possesses over this faculty that man becomes responsible for the government and regulation of his thoughts.

"The faculty of attention, when employed on external things, is just as mighty an instrument of moral discipline as it is of mental discovery. It fetches that influence from without, which bears with efficacy on the springs of feeling and of action.

* Sufficient importance is not attached in the education of women to the cultivation and discipline of the faculty of attention. Great injury is undoubtedly done to the mind by the hurry and rapidity with which everything is required to be accomplished in this express railroad era. Until the science of mathematics form an integral part of female education no really efficient plan of mental training can be said to be adopted. Men in this respect have an advantage over women, by being obliged to go steadily through a course of mathematical study, the mind being thus early in life well developed, disciplined, and trained by the severest of intellectual studies.

"It is by the attention shifting its objects that the heart shifteth its emotions. The mechanism there is operating rightly, but it is in virtue of a touch from without. It is by looking outwardly, and not inwardly, in fact, that the mind hath been set as it were to the right object, whose moving influence it is that brings the mind into its right state of emotion: and thus the cultivation of the dispositions is manifested to be a more simple and intelligible process than many are in the habit of conceiving it.

"The wayward tendencies of the heart are conquered, not so much by an operation at home as by an operation abroad. The most effectual refuge is, in the contemplation of that ethereal and unclouded purity by which the throne of heaven is encircled—a lifting of the thoughts to the august and unpolluted sacredness which dwelleth there—the daily and diligent consideration of that awful sanctuary which is above, where nought that is unholy can enter—and a solemn invocation to Him, before the rebuke of whose countenance all the vanities of a distempered imagination will at once flee away." *

Impairment of Attention.—In the incipient stage of disease of the brain and mind the patient complains of an incapacity to control and direct the faculty of attention. He finds that he cannot, without an obvious and painful effort, accomplish his usual mental work, read or master the contents of a letter, newspaper, or even a page or two of a favourite book. The ideas become restive, and the mind lapses into a flighty condition, exhibiting no capacity for steady continuity of thought.

Fully recognising his impaired and failing energies, the patient repeatedly rises to conquer the defect, and, seizing hold of a book, is resolved not to succumb to his sensations of intellectual incapacity, psychical languor, and cerebral

* Dr Chalmers' "Sketches of Moral and Mental Philosophy."

weakness; but he often discovers (when it is too late to grapple with the mischief) that he has lost all power of healthy mental equilibrium, normal concentration or co-ordination of thought. In his attempt to comprehend the meaning of the immediate subject under contemplation, he reads and re-reads with a determined resolution, and an apparently unflagging energy, certain striking passages and pages of a particular book, but without being able to grasp the simplest chain of thought, or follow successfully an elementary process of reasoning: neither is he in a condition of mind fitting him to comprehend or retain, for many consecutive seconds, the outline of an interesting story, understand a simple calculation of figures or narrative of facts. The attempt, particularly if it be a *sustained* one to master and converge the attention to the subject which the invalid is trying to seize, very frequently increases the pre-existing confusion of mind, producing eventually *physical* sensations of brain lassitude and headache. "Going through a train of close reasoning," says an acute observer when speaking of this condition, "is an undertaking absolutely impracticable. Indeed, to dwell upon any one thought steadily is a task, and a task, too, that can only be gone through at long intervals. Some person has remarked of a former King of Prussia, that his conceptions were quick, but that on contemplating a subject he grew confused. Whether it be true in this particular instance or not, the observation holds good of many individuals predisposed to epilepsy. They are generally those who have tampered with their sensibility. They seize a question dexterously, but their strength is exhausted in the first assault. If you try to make them grapple with a difficulty, they immediately flinch. To any proposition requiring them to contemplate a number of ideas steadfastly, they will yield a flat, unintelligible assent; or, to mask their

want of bottom, as the jockeys term it, they will endeavour to fly off to another topic. To conceive the condition of the head in such cases more distinctly, we may recollect how it fares with the eye when weakened in such a manner that the instant it is cast upon an inscription the characters are perfectly plain, but that in a little time they seem to run into each other, they become undistinguishable, and at last vanish altogether. From misconduct of the understanding, all frivolous people must be troubled with some flightiness of attention. We need no other reason to enable us to understand why it becomes requisite in polite circles to change the topic of conversation every second minute." *

These symptoms are often premonitory of softening of the brain, paralysis, epilepsy, and even apoplexy. This weakened power of attention often precedes, and is associated with, impairment and loss of memory. States of brown study, distraction, and reverie are often precursory of more demonstrative symptoms of impaired attention. They are but shades, degrees, and varieties of that morbidly torpid manifestation of the faculty which so often accompany unhealthy conditions of the intelligence and abnormal states of the cerebral tissue. These irregularities of thought are frequently *self-created*, often owing their existence to an obstinate determination on the part of the patient to succumb to their fascinating and seductive influence.†

A medical gentleman, who exhibited symptoms of mental derangement, informed his medical adviser that his ill-success in his profession filled him, as may well be supposed,

* Dr Beddoes' "Hygëia."

† "Reverie," says Locke, "is when ideas float in our minds without any reflection or regard of the understanding." What are termed "waking dreams" are distinct from that state of the mind previously described by Locke—viz., as "thoughts wandering without connexion."

with anxiety for his own subsistence and that of his family. He would sit at home for hours ruminating, and in a state of profound abstraction, and when he found, day after day, no summons arrive, he would saunter abroad and occupy himself with a reverie of wishes. These wishes he would sometimes arrange into a climax of events worthy of the glass man in the "Spectator." At length he would direct his footsteps homeward, under a kind of persuasion that some person of consequence had actually sent during his absence to call him in.*

Morbid reverie is fraught with serious mischief to the mind. It is often precursory of softening of the brain and of mental disorder. Hence the great value in the education of youth of carefully regulating, directing, disciplining, and mastering the attention, thus fitting and training the mind to combat successfully with those mental and physical states of ill-health which, when uncontrolled, so often sap and undermine its energies, prostrate and destroy its powers.†

* "Hygëia," by Thomas Beddoes, M.D. 1803.

† "There is hardly a person," says the Abbé de Condillac, "who, in his idle hours, has not had some reverie, in which he has imagined himself the hero of the romance. These fictions, which are called "castles in the air," generally produce only a slight impression on the brain, because we seldom give way to them, so that they are soon dispersed by some real objects with which we are obliged to occupy our thoughts. But suppose some sudden fit of melancholia seizes our mind so as to make us avoid the company of our best friends, and dislike everything that pleased us before, we shall then find in the transport of our grief that our favourite romance will be the only idea that can divert us from it. The animal spirits, by degrees, will dig such a strong foundation to his castle that nothing will be able to demolish it; we shall fall asleep in the building of it; we shall dream that we reside in it, and, in fine, when the impression of the spirits shall insensibly arrive at that pitch as if we really were what we have fancied ourselves to be, upon returning to ourselves we shall take our chimeras for reality. Perhaps the madness of that Athenian who imagined all the ships which entered the Piræus to belong to him, was owing to no other cause."

"Reverie and castle-building is a kind of waking dream, and does not differ from dreaming, except by the consciousness which accompanies it. In this state the mind abandons itself, without a choice of subjects, without control over the mental train, to the involuntary associations of the imagination. The mind is thus occupied without being properly active; it is active, at least, without effort. Young persons, women, the old and unemployed, and the idle, are all disposed to reverie. There is a pleasure attached to its illusions which renders it seductive and dangerous. The mind, by indulgence in this disposition, becomes enervated; it acquires the habit of a pleasing idleness, loses its activity, and at length even the power and the desire of action." *

"I have sometimes," says a distinguished living authority, "half believed, although the suspicion is mortifying, that there is only a step between his state who deeply indulges in imaginative meditation and insanity; for I well remember when I indulged in meditation to an extreme degree that my senses appeared sometimes to be wandering. I cannot describe the peculiar feeling I then experienced; for I have failed in so doing to several eminent surgeons and men of science, with whom I have conversed respecting it, and who were curious to become acquainted with its nature. But I think it was, that I was not always assured of my identity, or even existence; for I found it necessary to shout aloud to be sure that I lived; and I was in the habit very often at night of taking down a volume, and looking into it for my name, to be convinced that I had not been dreaming of myself. At these times there was an incredible acuteness or intenseness in my sensations. Every object seemed animated, and, as it were, acting upon me. The only way that I can devise to express my general feeling is,

* Anchillon, "Essais Philosoph." By Pascal.

that I seemed to be sensible of the rapid whirl of the globe."*

HEIGHTENED AND CONCENTRATED ATTENTION.—The attention is occasionally heightened or in a condition of unhealthy exaltation as well as of concentration. This is observed when the mind has been continuously, and sometimes involuntarily, directed to certain vivid impressions, trains of thought, classes of ideas, conditions of emotion, or states of physical sensation. That psycho-somatic disease termed hypochondriasis, which manifests itself principally in a morbid anxiety as to the health and extremely exaggerated, if not illusory ideas as to the existence of certain bodily diseases, is in its primitive nature essentially a diseased concentration of the attention upon, and consequent exaltation of, physical sensibility, resulting often from slight physical ailments, which eventually assume to the distempered and deluded imagination a grave and significant character.† Much of the disturbed thought, predominance of insane ideas, consisting in wretched hallucinations as to the state of the health, may be traced to an undue convergence and misdirection of the attention to unimportant mental impressions and trifling nervous sensations.

Alterations of organic tissue may result from a morbid concentration of the attention to particular structures. Feelings of uneasiness or even pain originate in the mind a suspicion of disease existing in particular parts of the body, it may be the lungs, stomach, heart, brain, liver, or kidneys. Slight irregularities and functional disturbances in the action of these organs being noticed, are at once suggestive, to those hypochondriacally disposed, of serious and fatal

* "Contarini Fleming," by the Right Hon. B. Disraeli, M.P., D.C.L.

† Dubois divides hypochondriasis into three stages :—1. *Strained attention.* 2. *Disturbed psychical conditions induced by innervation.* 3. *Disorganisation of tissue caused by functional disorder of the mind.*

disease progressing in the part to which the attention is converged. This deviation from a natural state of certain functions frequently lapses into actual *structural* disease, as the effect of the attention being for a lengthened period morbidly concentrated on their action. The continuous direction of the mind to vital tissues *imagined* to be in an unhealthy state undoubtedly causes an exaltation of their special functions and an increase of sensibility, by (it may be presumed) diverging to them an abnormal quantity of blood, this being followed, consecutively, by—1, undue vascular action; 2, capillary congestion; 3, an excess in the evolution of nerve force; and 4, appreciable *structural* alterations.

Thus the mischievous influence of moral agencies originating in the mind itself is exercised upon the physical as well as psychical organism, laying the foundation of lesions of structure and perversions of function. Morbid anatomy painfully attests the visible and tangible results of mental influences on the various physical tissues.

How much of self-created bodily suffering, voluntarily-courted physical pain, zealously-trained, distressing disease of the mind, arises from lengthened anxiety and continuous fret and worry as to the state of the corporeal and mental health. The unceasing dread of the presence, and constant morbid anticipation of approaching disease, whether bodily or mental, very frequently creates the mischief so much anticipated and so greatly apprehended. "*Non raro ægrum ab hoc sensu, et medicum ab ægro falli, cum æger ex censu communi, hausisse hinc inde adfirmat quod imaginatio et præcepta etiam opinio illi suggessit,*" is advice that should be carefully followed.*

"Health," says an able divine, "is an important blessing

* Hartman's "Pathology," p. 261, as quoted by Feuchtersleben in his "Medical Psychology," p. 215.

which we should not neglect, and for which we ought to be most thankful to the generous God who bestows it, but in the care sometimes taken of health, even at the expense of more serious duties, I have sometimes thought I saw exemplified the words of the satirist :—

"Et propter vitam, vivendi perdere causas."—*Juv.*

For the sake of life neglecting the very causes for which life is granted."

The *modus operandi* of heightened and concentrated attention upon certain trains of healthy as well as of incipient morbid thought, exalted emotions, disordered conditions of the instincts, and perverted states of the appetites and passions, is not difficult of appreciation. Impressions that were originally false or erroneous, conclusions that could only be termed absurd and illogical, judgments that might, consistently with fact, be termed defective and impaired, become evidences of actual disease of the brain and disorder of the mind, consequent upon an unhealthy and unbroken direction of attention. Insane delusions often thus arise. Hence the extreme danger of not exercising, like trustworthy sentinels, a watchful supervision and active controlling influence over every thought that enters the mind, and the evil that is caused by not keeping in strict subordination the passions and mental emotions. The fearful mischief that ensues from neglecting by resolute efforts to battle with the erratic suggestions of an unduly-excited, and flighty imagination, keeping in abeyance and strangling in their birth unhealthy impressions struggling to fix and engraft themselves upon the easily-moulded, plastic, and yielding fancy, cannot be exaggerated. "*Vide ne funiculum nimis intendendo aliquando abrumpas,*" says Lucian, when referring to the danger which results from an excessive and prolonged concentration of the mind.

Whenever there exists a consciousness that a painful effort is required in order to master, converge, and rivet the attention to any particular subject, train of thought, and class of emotions, we may, *cæteris paribus*, be assured that the functions of the brain have been overwrought, and are not at the time in a healthy working condition. This symptom often accompanies slight irregularities of the arterial and venous cerebral circulation. It may also proceed from transient but curable states of capillary congestion on the surface of the brain, dependent occasionally upon functional disorder of the stomach, heart, kidneys, and liver, and need excite no alarm unless the loss of mental vigour be of some duration, is clearly encephalic in its origin, and associated with vertigo, headache, loss of memory, lesions of sensibility, and other distinguishing signs of head disorder. Nevertheless it is a symptom entitled to serious consideration when medically analysing the incipient signs of cerebral and mental disease.

Anxious as I am not to attach undue importance to this evidence of morbid intelligence, I cannot close my eyes to the fact that a debilitated power of attention is a prominent symptom in the early stage of cerebral disorder. Cases of incipient brain disease occur in which patients have, previously to other symptoms appearing, lost all ability to read continuously twenty lines of a book without a painful effort of thought. This state of mind may exist for months, necessitating the abandonment of all intellectual work, and has been succeeded by loss of memory and other symptoms of organic cerebral disease. If there be impairment of attention and debility of memory, it is illusory for the patient to imagine that he is able (until his *physical* condition of ill-health is attended to) by repeated and persevering efforts to resuscitate these prostrated powers. In his attempt to do so he

still further taxes the morbid state of these faculties; and instead of invigorating, still further debilitates and often entirely extinguishes his intelligence.

In this state of nervous ill-health serious and irreparable injury is occasionally done to the delicate organisation of the brain and mind by injudicious attempts to exercise, stimulate, and *force* into activity the morbidly-flagging and sluggish mental faculties. The existence of such symptoms establishes that the brain, although not necessarily diseased, is quite unfit for any degree of *sustained* action, and that conditions of perfect REPOSE and states of prolonged and uninterrupted REST are essential to a restoration of its enfeebled energies.

The danger so often incurred by overtaxing the power of attention in debilitated states of the bodily health is well illustrated in the following case, drawn up by the patient himself:—"I was this morning engaged with a great number of people who followed each other quickly, and to each of whom I was obliged to give my attention. I was also under the necessity of writing much, but the subjects were various and of a trivial and uninteresting nature, and had no connexion the one with the other; my attention, therefore, was constantly kept on the stretch, and it was continually shifting from one subject to another. At last it became necessary that I should write a receipt for some money I had received on account of the poor. I seated myself and wrote the two first words, but in a moment found that I was incapable of proceeding, for I could not recollect the words which belonged to the ideas that were present in my mind. I strained my attention as much as possible, and tried to write one letter slowly after the other, always having an eye in order to observe whether they had the usual relationship to each other; but I remarked and said

to myself at the time that the characters I was writing were not those which I wished to write, and yet I could not discover where the fault lay. I therefore desisted, and partly by broken words and syllables, and partly by gesture, I made the person who waited for the receipt understand that he should leave me. For about half an hour there reigned a kind of tumultuous disorder of my senses, in which I was incapable of remarking anything very particular except that one series of ideas forced themselves involuntarily into my mind. The trifling nature of these thoughts I was perfectly aware of, and was also conscious that I made several efforts to get rid of them, and supply their place by better ones which lay at the bottom of my soul. I endeavoured as much as lay in my power, considering the great crowd of confused images which presented themselves to my mind, to recall my principles of religion, of conscience, and of future expectations; these I found equally correct and fixed as before. There was no deception in my external senses, for I saw and knew everything around me, but I could not free myself from the strange ideas which existed in my mind. I endeavoured to speak in order to discover whether I was capable of saying anything that was connected, but although I made the greatest efforts of attention, and proceeded with the utmost caution, I perceived that I uniformly spoke other words than those I intended. My soul was at present as little master of the organs of speech as it had been before of my hand in writing. Thank God, this state did not continue very long, for in about half an hour my head began to grow clearer, the strange and tiresome ideas became less vivid and turbulent, and I could command my own thoughts with less interruption. I now wished to ring for my servant, and desired him to inform my wife to come to me; but I found it still necessary to

wait a little longer to exercise myself in the right pronunciation of the few words I had to say, and the first half-hour's conversation I had with her was on my part preserved with a slow and anxious circumspection, until at last I gradually found myself as clear and serene as in the beginning of the day. All that now remained was a slight headache. I recollected the receipt I had begun to write, and in which I knew I had blundered, and upon examining it, I observed, to my great astonishment, that instead of the words '*fifty dollars, being one half-year's rate,*' which I ought to have written, the words were '*fifty dollars, through the salvation of Bra*——,' with a break after it, for the word '*Bra*' was at the end of the line. I cannot recollect any business I had to transact that could by means of an obscure influence have produced this phenomenon."*

This impairment of the faculty of attention occasionally supervenes upon attacks of fever. Dr Abercrombie accurately describes this weakened state of the intelligence. "The patient," he says, "in the early or milder stages is incapable of fixing his mind upon anything that requires much attention, of following out an argument, or of transacting business which calls for much thought or consideration. He is acute and intelligent as to all common occurrences, and shows no want of recollection or of the power of reasoning when his attention is excited, but he feels it an exertion that is painful to him. In a higher degree of this condition he is still intelligent as to what is said or done at the time, or in recognising persons; but in a short time forgets everything in regard to the person or the occurence. He is incapable of that degree of attention which is necessary for memory, though the powers of perception are entire. In the next stage he becomes

* "Mental Derangement," by Alexander Crichton, M.D. 1798.

incapable of receiving the full impression from external things; and in consequence of this he mistakes the objects of his own thoughts for realities. This is delirium, and there are various degrees of it. In some cases the attention of the patient can be roused for a time, and directed to the true relations of external things, though he relapses into his delirious impressions when he is left undisturbed; in others the false impression is constant, and cannot be corrected by any effort which is made to direct the attention; and in a third modification of this remarkable condition, he mixes up his hallucinations with external impressions in a most singular manner. He is still capable, however, of describing his impressions, —that is, of talking so as to be understood, though what he speaks of relates only to his erroneous conceptions or mere bodily feelings. In the next stage he either does not attempt to express himself at all, or is entirely unintelligible. He is now cut off from communication with external things and with other sentient beings; and the highest degree of this is what we call coma or stupor, which resembles profound sleep.

"This description refers chiefly to the gradations in the state of the mental functions which we observe in continued fever. It is particularly interesting to trace them in this disease, because we see the various grades passing into one another, and thus showing in a connected series the leading peculiarities which in other affections we have to contemplate separately."

I have previously referred to the morbid phenomenon of distraction (*être distrait*). It is an important incipient symptom of disease of the brain. The patient, whilst engaged in conversation, suddenly pauses, is puzzled and confused, appearing to have lost the connecting media in the chain of thought. This condition of mind is occasion-

ally precursory of epilepsy and apoplexy. It is also seen in the early stage of softening of the brain, and in cases of ordinary as well as of general paralysis. This symptom has often been unobserved until the cerebral disease has made considerable progress.

The case of Oscar, the late King of Sweden, the particulars of which are detailed with great minuteness by Dr P. O. Liljewalch, first physician in ordinary to his late Majesty, constitutes an admirable illustration of the insidious advances of organic disease of the brain.

It appears that the king (I abridge the subjoined account from Dr W. D. Moore's translation of the official report of his Majesty's last illness as well) had enjoyed, the greater part of his life, tolerably good health. He had, early in life, a severe attack of typhus, and subsequently of rheumatic fever. He rallied, however, completely from these seizures. His Majesty exhibited great activity and cleverness in the discharge of his regal duties. His general health was excellent, with the exception of a slight irregularity in the heart's action, observed generally in the spring of the year. The king was in the habit of making yearly excursions to remote parts of his kingdom, and returning to the capital late in the autumn. From these journeys he derived great benefit. In 1851 his Majesty's health again showed symptoms of failure. The heart became very irregular in its movement, and the digestive functions were impaired. The liver also increased in size, and the brain manifested signs of disorder. His Majesty, on the advice of his physician, took to the baths of Kissengen, and subsequently made a tour through Switzerland. He again returned home much improved in health. He soon afterwards lost a beloved son. The shock caused by this heavy bereavement induced another attack of typhus fever, which nearly proved

fatal. The king, however, recovered from this severe illness, and would, it was thought, have continued well had he not zealously but indiscreetly devoted his mind to anxious political matters, omitting his annual summer excursion. In 1857 his Majesty's health again gave way, causing great uneasiness to his family. The symptoms at this time were those of congestion of the brain. Dr Liljewalch says—

"The lower extremities, the muscles of which were always weak, began to totter under the weight of the body; and, at the same time that the power of combination for the motions of these parts was impaired, his Majesty was troubled with vertigo, particularly accompanying the movements of the head, and with vomiting, which symptoms, in combination with the diminution of strength, and the occurrence of involuntary muscular spasms, indicated the existence of a more deeply-seated affection, probably a softening in the central nervous system. Incapacity to discharge his royal functions now brought on a deep melancholy, and his Majesty, even in the commencement of his illness, expressed his conviction of its incurability. Although this conviction could not, unfortunately, but be participated in by those who were privileged to be his Majesty's physicians, we did not at that time consider it our duty publicly to express it. The means employed to combat the disease were, moreover, without any essential efficacy; the paralysis, which commenced in the lower extremities, gradually increased; and after the king—feeling his inability any longer to fill the high position to which Providence had called him—transferred into the hands of his then Royal Highness the Crown Prince the government of the united kingdoms, his deep melancholy gave way to a progressive indifference, even for those things which in his health he had regarded with the most lively interest.

The disease henceforward progressed slowly towards its end, and the paralysis began so steadily to extend to the other voluntary muscles, that towards the end of last June both lower and upper extremities, and the sphincters of the excretory passages, were almost entirely paralysed, while involuntary spasms from time to time agitated the right leg. The appetite, too, had now disappeared, and although digestion continued undisturbed, the body had greatly emaciated, while the hitherto superficial bed-sores, which had often been nearly healed, and had already existed more than six months without causing any great pain, began to extend and to assume a gangrenous appearance. Under all this the patient's strength gradually sank; the power of speech, previously very limited, latterly was altogether lost; the lungs filled with mucus, which, in consequence of incipient paralysis of the muscles of respiration, could only, with increased difficulty, be expectorated; and on the 8th of July, at eight o'clock in the morning, his Majesty quietly expired, supported in the arms of his royal consort, who, during his more than two years' illness, never left his side, and surrounded by all the other members of the royal family, kneeling with her and weeping bitterly around the deathbed of the never-to-be-forgotten and long-tried head of their illustrious house.

"The first trace of the nervous disease, the development of which I have now described, and which brought the late King to the grave, manifested itself long since, although it was not until within the last six or eight years of his Majesty's life that, as we have seen, it occurred with more definite, and at last with such threatening symptoms. No one who had the good fortune to approach his Majesty's person, and who had an opportunity of observing him during a long period in his daily intercourse, could avoid being amazed at the very extraordinary power his Majesty always

exhibited of retaining in his memory the most varied details, or could cease admiring the rapid apprehension, the unerring judgment, and the singular clearness of statement which were exhibited whenever he spoke. But at the same time he would not fail to recollect how his Majesty sometimes, in the middle of a conversation to which he was directing all his attention, would of a sudden appear to be abstracted, and would really transfer his thoughts to some other subject on which, unless he might be disturbed, he would allow them to rest, usually only for a few moments, but sometimes for many minutes; after which the conversation would be resumed as if it had not been interrupted. The peculiar expression of his Majesty's features, particularly his look assumed on such occasions, and the spasmodic state, or the involuntary movements which, at the same time, took place in one or other part of the muscular system, render it probable that this distraction, which at times was of frequent recurrence, was due to an incipient affection of the central organ of thought. This symptom, referrible to the most important organ of the nervous system, was of late years accompanied, as has been already mentioned, with increasing weakness in the muscles of the lower extremities, and with uncertainty in the combination of movement, probably depending on a commencing organic change, either in the organ alone on which the power of motion depends, or else in that by which the co-ordination of movements is effected. *

* The *post mortem* examination of King Oscar revealed extensive disorganisation of the brain.

CHAPTER XIII.

MORBID PHENOMENA OF MEMORY.

THIS section will embody an analysis of—

1. *Acute Disorders of Memory.*
2. *Chronic Affections of Memory.*
3. *Perversion of Memory.*
4. *Exaltation of Memory.*
5. *Memory of the Insane.*
6. *Psychology and Pathology of Memory.*

The memory may, as the effect of natural decay, accident, or disease, be—

α. *Disordered.*
β. *Weakened.*
γ. *Lost.*
δ. *Perverted.*
ε. *Exalted.*

I propose to consider in this section somewhat in detail, not only the impairment and aberration of memory which may properly be considered symptomatic of acute disease of the brain and disorder of the mind, but those singularly abscure and inexplicable cases of total and modified paralysis of the faculty, consequent upon injuries caused to the delicate nerve vesicle, either by inflammation resulting in adventitious deposits in the substance or on the surface

of the brain and membranes, mechanical violence to the head, or by atheromatous changes in the structure of the cerebral vessels (fatty degeneration), disordered states of the cranial circulation, and conditions of defective nutrition of the nerve matter.

This division of the subject involves a consideration of—

1. *Acute Disorders of the Memory.*
2. *Chronic Affections of the Memory.*

What is memory? How are we enabled by an effort of the will to reproduce previously-conceived mental impressions, revive past states of consciousness, and recall to the mind a long and complex train of apparently obliterated and forgotten thought? Are the ideas carefully housed, registered, and classified in hidden and mysterious cells, vesicles, or chambers of the brain? If so, what is, in the language of Cicero, the nature of this "*thesaurus omnium rerum?*" Where is situated the vesicular mental repository and cerebral treasure-house destined to garner, preserve, and protect from injury the myriads of ideas that obtain an entrance into the mind through the media of the senses?

In what portion of the brain lie those registers of the objects and occurrences of a man's life, those tablets which are the result of recital or reading, the numberless words of many languages understood by the same individual, and the system of facts belonging to the many sciences which he understands? Where is all this knowledge stored away ready for use? What part has the matter (the water, the albumen, and the cerebral fat) in that sublime activity which nevertheless does not exist without it, and which through its least derangement is changed or entirely lost? Is memory a distinct sovereign power, exercising independent autocratic authority? or is it one of the results of

a *combined* or *complex* operation of several of the mental faculties?

The facts to be detailed and principles enunciated in the subsequent pages will, I hope, if not fully, yet to a limited extent satisfactorily answer the preceding interrogatories in relation to the metaphysics or psychology of memory.*

* "The eye, the ear, and the other organs of sense, are physical instruments by means of which impressions are communicated through the nerves to the brain. It does not, however, follow that the brain itself feels, or that it performs any other than a subordinate office, conveying the impressions received from the organs of sense to a superior principle in connexion with it. Memory is a recurrence of sensations which existed formerly, produced by the operation of some internal changes after the causes by which the first sensations were excited have ceased to exist. When renewed, sensations are (with some rare exceptions) fainter and less distinct than those in which they originated. There is also this difference between them, that the renewed sensations are subject to the influence of volition vanishing at once on the slightest effort being made to direct the attention to anything else; whereas we have no such power over the impressions which are made on our senses by the immediate presence of external objects.

"Notwithstanding these points of difference, it is plain that memory is closely allied to sensation, and the resemblance between the two orders of phenomena is so great as to justify the suspicion that the nervous system is instrumental in producing the one as well as the other; while a multitude of facts show that the suspicion is well founded. A blow on the head may destroy the memory altogether, or (which is more usual) it may destroy it partially, or it may interrupt its exercise for a certain time, after which it may be gradually or even suddenly restored. After fever, also, and some other bodily ailments, the memory is not unfrequently impaired or lost. A blow on the head which causes insensibility generally affects the memory so far, that when the patient has recovered from the state of insensibility, he has no knowledge of the accident. But in some instances the effect of a blow on the head is merely to disturb the memory, the other functions being unimpaired. It seems to be a legitimate conclusion that impressions made on the organs of sense and transmitted to the brain produce some actual change in the minute organisation of the latter, and that this is subservient, and, in our present state of existence, essential to the memory.

"What the actual changes in the condition of the brain may be it is impossible for us to comprehend.

"It is clearly not sufficient that an impression should be transmitted to

Before analysing in detail the morbid phenomena of memory as symptomatic of diseases of the brain and mind, it will be necessary to consider the natural order in which various classes of ideas stand in relation to each other, not only in regard to the *priority* of their admission into the mind, but as to the *durability* of the impression they make upon the sensorium.*

the brain to be remembered. An act of the mind itself is necessary for that purpose, and that, as Dr Hook has observed, is attention. It is only a small proportion of what we see, or hear, or feel, or imagine, that is not immediately forgotten, simply because there are very few of these things to which we pay more than a momentary attention, while to many of them we pay no attention at all. Now, attention implies volition; that is, it is that effort of volition by which an object, which would otherwise have immediately passed away, is kept present to the mind during a certain period of time. Sensation and volition are the two functions by means of which the mental principle is enabled to maintain its communication with the external world. It is under the influence of volition that the contraction of muscles takes place for locomotion, speech, the procuring of food, and other purposes, and that the torpedo discharges his electric battery.

"How there is an impulse communicated from the mind to the brain, and from hence to the nerves, and from these to other organs, and producing a marked change in the condition of the latter; and *à priori* there is no reason to doubt that the operation of a similar cause may produce an equal change, though of another kind, and more prominent, in the minute structure of the brain itself.

"It appears probable that there is a special organ in the brain for the purpose of memory as well as for locomotion and speech. But there our knowledge ends. At present we must be content to acknowledge that we know nothing as to the locality of the function, nor of the minute changes of organisation which are connected with it."—*Sir Benjamin Brodie's Psychological Inquiries.*

* When speaking of this faculty we should fully recognise the philosophical distinction between what is termed the *automatic* operations of the mind involved in the spontaneous and involuntary reproduction to the consciousness of former mental impressions, and that condition of the intellect connected with the revival of ideas by an *act of volition*, the former state being properly termed *memory*, and the latter *recollection*.

"Memory is not an original power or faculty. It is made up of two ingredients—the thing remembered, and the idea of having seen it. The last ingredient, however, consists of three component parts—our

Metaphysicians agree in opinion that *qualities* of objects and *events* are more easily retained in the mind than *dates* and *names;* in other words, that the intellect takes a more tenacious grasp of *adjectives* than of *substantives.*

Gratiolet considers that the ideas of things are more or less allied to the notions we have of ourselves, and that they are effaced the more easily the less they are thus associated and identified. *General* ideas disappear from the mind only after those that are *particular* and *contingent.* An object, he affirms, has two names—one *generic* and the other *specific.* The former is more easily retained than the latter. When a man is seen for the first time, a certain distinct idea is formed of him, from his *aspect* and *qualities,* before his name is known. He is a particular man—*great* or *little, fair* or *dark,* before he becomes to the observer, *John, Peter,* or *Thomas.* The relation of names to things is often accidental and arbitrary. There is not in this respect a general order—it is the fortuitous association of a *sign* and of a *thing.* That alone remains readily in the memory which is conceived according to a natural order. If the memory becomes enfeebled, it is with regard to proper names that this enfeeblement is first apparent. There are in this respect many differences among men, according to the degree of importance with which words are appreciated. One man investigates particularly facts from whence results a spontaneous definition of things, and the name of objects or persons will be but of accessory importance. Another will touch slightly on the *fact,* and pre-occupy himself with the *name.* This is witnessed constantly among naturalists.* Some are best acquainted with objects, others with names.

present remembering self, our past remembering self; and these being united by certain trains of consciousness, unite the two selfs, which form a compound called by metaphysicians personal identity."—*James Mill.*

* "I cannot help taking this opportunity of expressing a wish that

If, adopting Gratiolet's theory, the memory becomes enfeebled in two men of this character, he who has the most vivid image of facts will lose the memory of words before that of things, whilst the other, contented with the sign, will forget everything in losing the memory of names. But in both the one and the other the first result of an enfeeblement of the memory will be a species of dissociation between the ideas of things in themselves and of the arbitrary names which designate them.

"A distinguished *savant*," says this physiologist, "connected with one of the continental academies, is unable to designate his *confrères* by their names, and he characterises them by their *works*. If he speaks of one of them he expresses himself thus—'My *confrère* who has written *such a book;* who has made *such* a discovery.' He designates him,

medical writers would be more at pains than they have been at hitherto to ascertain the various effects which are produced on the memory by disease and old age. These effects are widely diversified in different cases. In some it would seem that the memory is impaired in consequence of a diminution of the power of attention; in others, that the power of recollection is disturbed in consequence of a derangement of that part of the constitution on which the association of ideas depends. The decay of memory, which is the common effect of age, seems to arise from the former of these causes. It is probable that as we advance in years the capacity of attention is weakened by some physical change in the constitution; but it is also reasonable to think that it loses its vigour partly from the effect which the decay of our sensibility and the extinction of our passions have in diminishing the interest which we feel in the common occurrences of life. That no derangement takes place in ordinary cases in that part of the constitution on which the association of ideas depends, is clear from the distinct and circumstantial recollection which old men retain of the transactions of their youth. In some diseases this part of the constitution is evidently affected. A stroke of palsy has been known, while it did not destroy the power of speech, to render the patient incapable of recollecting the names of the most familiar objects. What is still more remarkable, the name of an object has been known to suggest the idea of it as formerly, although the sight of the object ceased to suggest the name."—*Dugald Stewart's Elements of the Philosophy of the Human Mind.*

in short, not by his *name* but by a *quality*. Things are first known to us by a certain number of *qualities* which affect us, the ideas of qualities being generators of the ideas which we have of things considered as *substances*. In the order of acquisition of ideas the substance predominates over the accident, and the accident predominates over the foundation. Thus the general idea of being, united to the particular idea of a certain number of properties, suffices for a definition, and in practice these spontaneous definitions precede the names. 'What is this called?' we say every day. 'What is the name of this round object—of this green object?' The arbitrary name comes but afterwards, the name is then secondary and added, it is then less essential and ought to be lost first in this process of interior dislocation in which the ideas separate themselves with greater or less difficulty, the one from the other, on account of the degree of their reciprocal affinities."

This theory, Gratiolet affirms, enables us to understand why proper names disappear first, then substantives, which are the proper names of things. Adjectives or qualificatives disappear last, and everything disappears with them, because we cannot have an idea of a thing independently of its qualities. We recall things and the names of things in the ratio of their necessity. In the order of thought the *coincident* is more easily forgotten than the *correlative*, the consequence *remote* more readily than the consequence *immediate*.*

Dr Itard conceives that the loss of memory generally accompanying attacks of apoplexy occurring in advanced life, follows in the subjoined order: there is first a forgetfulness of *names*, then of *substantives*, then of *verbs*, and

* "Anatomie comparée du Système Nerveux considéré dans ses Rapports avec l'Intelligence." Par Fr. Leuret et P. Gratiolet; tome 2, par M. P. Gratiolet, Paris, 1839-57.

next of *adjectives*. Adjectives appear to retain their hold with the firmest tenacity upon the mind. It is well-known, says this physician, that many idiots have had a memory only for adjectives.

Some light may be perhaps thrown upon this subtle question by considering the mode in which the understanding is built up, the intellectual superstructure reared; in other words, the relation in which ideas are admitted into the mind. "The order of learning," says Vives, as translated by Sir W. Hamilton, "is from the senses to the imagination, and from this to the intellect. Such is the order of life and of nature. We thus proceed from the *simple* to the *complex*, from the *singular* to the *universal*. This is to be observed in children, who first of all express the several parts of different things and then conjoin them. Things general they call by a singular name; for instance, they call all Smiths by the name of that individual *Smith* whom they have known; and all meats, *beef* and *pork*, as they happen to have heard the one or the other first when they began to speak. Thereafter the mind collects universals from particulars, and then again reverts to particulars from universals." The same doctrine, without any knowledge of Vives, is maintained by Locke. He says, "there is nothing more evident than that the ideas of the persons children converse with (to instance them alone) are like the persons themselves, only particular. The ideas of the nurse and the mother are well framed in their minds, and, like pictures of them, represent only those individuals. The names they first gave to them are confined to those individuals, and the names of *nurse* and *mamma* the child uses, determine themselves to those persons. Afterwards, when time and a larger acquaintance have made them observe that there are a great many other things in the world that in some common agreement or shape, and several

other qualities, resemble their father and mother, and those persons they have been used to, they frame an idea which they find those many particulars do partake in, and to that they give with others, for example, the name *man*. Thus they come to have a general name and a general idea."*

* Locke "On the Human Understanding."

CHAPTER XIV.

ACUTE DISORDERS OF THE MEMORY.

In estimating the activity of the memory in relation to a suspected state of cerebral or occult condition of mental disease, it is important to remember that as age advances, the power of recalling to mind by an effort of the will recent events becomes generally much impaired, and is sometimes altogether destroyed. The sad infirmities that sometimes accompany old age are thus truthfully described :—

> "Multa senem circumveniunt incommoda, vel quod
> Quærit et inventis miser abstinet, ac timet uti ;
> Vel quod res omnes timidè gelidèque ministrat,
> Dilator, spe longus, iners, avidusque futuri,
> Difficilis, querulus, laudator temporis acti."—*Hor.*

In a few instances, however, even in very advanced life, the faculty of memory exhibits an extraordinary degree of elasticity and a surprising amount of vigour. There is, however, much difference among the aged as to their ability to revivify *recent* mental impressions. Some old persons, when in a robust state of bodily health, have great power of reproducing these as well as long antecedent ideas. A charming illustration of this fact occurs in the life of Niebuhr, the celebrated Danish traveller. When old, blind, and so infirm that he was able only

to be carried from his bed to his chair, he used to describe to his friends the scenes which he had visited in his early days with wonderful minuteness and vivacity. When they expressed their astonishment at the vividness of his memory, he explained "that as he lay in bed, all visible objects shut out, the pictures of what he had seen in the East continually floated before his mind's eye, so that it was no wonder he could speak of them as if he had seen them yesterday. With like vividness the deep intense sky of Asia, with its brilliant and twinkling host of stars, which he had so often gazed at by night or its lofty vault of blue by day, was reflected in the hours of stillness and darkness on his inmost soul."*

* "It is an undoubted fact, and almost universally true, that the mind before extreme old age becomes more sound, and is capable of greater things during nearly thirty years of diminished bodily powers; that in most cases it suffers no abatement of strength during ten years more of bodily decline; that in many cases a few years more of bodily decrepitude produces no effect upon the mind; and that in some instances its faculties remain bright to the last, surviving almost totally the total extinction of the corporeal endowments. It is certain that the strength of the body, its agility, its patience of fatigue—indeed, all its qualities—decline from thirty at the latest; and yet the mind is improving rapidly from thirty to fifty, suffers little or no decline before sixty, and therefore is better, when the body is enfeebled, at the age of fifty-eight or fifty-nine, than it was in the acme of the corporeal faculties thirty years before. It is equally certain that while the body is rapidly decaying between sixty or sixty-three and seventy, the mind suffers hardly any loss of strength in the generality of men; that men continue to seventy-five in the possession of all their mental powers, while few can then boast of more than the remains of physical strength, and instances are not wanting of persons who, between eighty and ninety, or even older, when the body can hardly be said to live, possess every faculty of the mind unimpaired.

"We are authorised to conclude from these facts, unless some unusual and violent accident interferes, such as a serious illness or a violent contusion, the ordinary course of life presents the mind and the body running courses widely different and in great part of the time in opposite directions; and this affords a strong proof both that the mind is independent of the body, and that its destruction in the period of its

The healthy activity of the memory depends (1.) upon the natural strength of the faculty or original vigour of mind; (2.) early educational discipline; (3.) freedom from a great strain upon the functions of the brain; (4.) upon absence of any lengthened worry and mental anxiety; (5.) on a steady habit of regularly cultivating the faculty. Temperate habits, an immunity from those youthful excesses which so frequently undermine the physical and mental constitution and sow the seeds of premature psychical impairment and bodily decrepitude, are essential to a healthy preservation of the memory.

"Strange infirmities of the memory there are associated with cerebral disease, and justly to be regarded among its symptoms; large blanks in the backward gaze, fitful suspensions of the remembering power, partial glimpses of the past, resurrections of thoughts long buried in oblivion. I speak not of that natural decay of the memory which is noticeable in most persons as age creeps on, and which is one of the most affecting of the many warnings then vouchsafed to us that the bodily frame is suffering dilapidation. Even of this natural decay there are some curious things to be noted. Recent events are retained with difficulty and soon forgotten; while those of older date are easily and accurately recalled. This has been

entire vigour is contrary to the analogy of nature."—*Discourse of Natural Theology, by Lord Brougham*, p. 119.

"The angels of youth leave the deepest footmarks on the rocks of memory, and the long ago and distant past is more often and more deeply imprinted on the soul than the distant future. In the same manner the first ornamental letters of our existence, like those in illuminated writings, carry on their beautiful emblazonments all round the four sides of the manuscript."—*Jean Paul F. Richter.*

"The *young*," says Aristotle, "live forward *in hope;* the *old* live backwards *in memory.*"

"Hoc est
Vivere bis, vita posse priore frui."—*Martial.*

referred, and rightly, I believe, to the differing degree of interest, and therefore of attention, which the same objects excite in the young and in the old. It would seem as if the effort of attention stamped characters upon the material fabric which are deep and lasting in the youthful brain, faint in advanced life, and often altogether effaced in old age. But disease and undue activity of the cerebral circulation may revive things long forgotten, a language long unspoken and unthought in, or blot out entirely all traces of definite portions of time gone by."*

The imbecility of age is not so painful to the old as it is to those who stand by and observe its condition. With the return of our second childhood we lose the consciousness of our prime. The loss of any of our senses is accompanied with the oblivion of its enjoyment. Thus the blind are cheerful, the deaf happy, and the old content. So that we are tempted to conclude that those exquisite lines of Goethe, so ably rendered into English by their noble translator, express a poetic fiction rather than a reality :—

'Give me the active spring of gladness—
Of pleasure stretched almost to pain ;
My hate, my love, in all their madness—
Give me my youth again !'

Although the sight of the angelic Margaret as

'She sat by the casement's chequer'd glass,
The clouds fly by, and she watches them pass
Over the city wall.'

meditating on her love, were sufficient to enkindle a spark of passion even in the icy veins of an old dotard. But no ; in the really old the flame is extinct, the ashes have been burnt out, and no spark can ever fire them again. An aged gentleman, during the stunning and damaging effect of an apoplectic seizure, lost all his money by the

* "Practice of Physic," by Sir Thos. Watson, Bart., M.D.

failure of a bank. On recovering his senses he could never fortunately be awakened to the feeling of poverty, nor the embarrassing consciousness of being a poor dependent on the bounty of his friends. Another gentleman, during a fit of apoplexy and its tedious consequences, lost two of his dearest relatives by death, and came into possession of some considerable property besides. On his recovery he neither regretted the loss he had sustained, nor rejoiced at his own good fortune.*

An authority, when speaking of the impairment of memory consequent upon the gradual physical decadence so often witnessed in advanced life, says:—"The memory is undoubtedly the mental faculty which is first and most obviously affected by old age. This wonderful intermedium between body and mind varying so greatly in different individuals, and so strangely capricious in the same individual, from the accidents of the day or hour, would seem to partake more of mere mechanism than any other of the intellectual powers. It undergoes changes more explicitly from physical causes, and both its excellences and defects are marked by peculiarities which appear to belong to conditions of an organic kind. The anomalies of memory in advanced life are familiar to every one, especially so the facts of the early forgetfulness of names, and the frequent retention of things long past, while recent events flit away like shadows, leaving scarcely any trace behind.† Or, more strangely still

* "Psychological Journal," edited by the author.

† How sad is the picture which Earl Russell has drawn of his friend Rogers' state of memory in advanced life. When speaking of this illustrious poet's decay of intellect, he says:—

"In his ninetieth year his memory began to fail him in a manner that was painful to his friends. He was no longer able to relate his shortest stories, or welcome his constant companions with his usual complimentary expressions. He began to forget familiar faces, and at last

(though never, perhaps, without some morbid changes in the brain), the obliteration of certain classes of events or certain subjects of memory, as if by a sort of mechanical separation from everything else abiding in this mysterious receptacle.

"The importance of preserving memory in its integrity, as long and so far as it can be done, will probably be admitted. Some may urge that an oblivion of things past is the best security for a tranquil old age. But this virtually reduces man to a mere moiety of existence; and the same reasoning might be used to prove that utter imbecility of mind is a blessing in this latter stage of life; such imbe-

forgot that he had ever been a poet. It was impossible, however, even when memory had at length deserted the poet who had sung her charms, to look upon him without veneration. Faces of other times seemed to crowd over him as he sat, and what that now vacant mind had once known, what those now lifeless eyes had once seen, and what that now faltering tongue could once relate so well, were the thoughts uppermost in the minds of all who saw and knew him."

Another writer (*Edinburgh Review*, 1856) observes:—

"Till near ninety, Rogers was a striking exception to the rule 'of the decay of the mind before that of the body.' He then gradually dropped into that state, mental and bodily, which raises a reasonable doubt whether prolonged life be a blessing or a curse—

'Omni
Membrorum damno major dementio, quæ nec
Nomina servorum nec vultum agnoscit amici,
Cum quo præteritâ cœnavit nocte, nec illos,
Quos genuit, quos eduxit.'—*Juven.* Sat. x.

"Although his impressions of long past events were as fresh as ever, he forgot the names of his relations and oldest friends whilst they were sitting with him, and told the same stories to the same people two or three times over in the same interview. But there were frequent glimpses of intellect in all its original brightness, of tenderness, of refinement, and of grace. 'Once driving out with him,' says a female correspondent, 'I asked him after a lady whom he could not recollect. He pulled the check-string, and appealed to his servant. 'Do I know Lady M.?' The reply was, 'Yes, sir.' This was a painful moment to us both. Taking my hand, he said, 'Never mind, my dear, I am not yet compelled to stop the carriage and ask if I know you?'"

cility from natural causes often occurs; but we have no title to consider it a good, or to neglect any means which may obviate or retard it. We will not venture to say that these means are many or certain. As regards memory in particular, all that can be done at this period of life is to aid in giving it the direction which circumstances make desirable, and to spare it those painful efforts at recollection which seem to weaken the very faculty they exercise. The latter remark we believe to be of valuable application to other periods long antecedent to old age; but especially, perhaps, to that time when the faculty is first felt to decline in clearness and power. * Recollection—that is the effort of the will to combine or extricate what is laid up in the memory—cannot be carried beyond a particular point without inducing a certain confusion of mind hurtful to the faculty itself, and probably to others also. The consciousness of every one will give proof as to these occurrences, and at the time, if duly consulted, afford warning to avoid them. †

In many of the organic diseases of the encephalon some modification or weakness of the memory is usually observed, and in cases of red and white softening, cerebral tumours, as well as in those morbid changes in the nerve matter, its membranes or vessels, associated with general paralysis, this mental power frequently shows marked symptoms of

* According to the theory of Dr Lordat (professor of physiology in the University of Montpelier), a weakened memory does not always indicate a decadence of the intellectual principle. Memory (or the preservation of ideas in their full integrity), according to this authority, and the *re*collection of these ideas, are complex functions executed in concert by two principles. The remembrance of a fact is usually composed of two elements—the one *concrete*, and the other *abstract*. The first of these is rather the offspring of the *vital* force than of the *intellectual* principle. It is not therefore surprising that the aged condition of the former should manifest itself, while the latter power preserves its full integrity.

† *Edinburgh Review*, vol. cv. p. 75.

early senescence. Instances, however, of extensive organic disease of the brain occur without in a marked degree weakening this faculty. In a few exceptional cases of tumour, abscess, and even extensive pulpy cerebral softening, the memory continues in operation up to the moment of death. Impairment of this faculty is, however, often found among the early symptoms of cerebral disease. The patient, conscious of his failing, defective, or impaired power of retention, feels anxious as to the state of his brain and mind, and it often occurs, when he first consults his physician, that this is the only recognised and appreciable sign detected by himself and noticed by others of any disorder of the great nervous centre.

Previously to attacks of apoplexy, paralysis, and softening of the brain, the patient is heard to complain of a stunned, inactive, confused, and sluggish state of the memory, indicated by a difficulty in recalling with facility ideas to the mind. The attempt, under such conditions of impending disease, to revivify former states of consciousness requires a severe effort, and is attended with sensations of physical distress clearly referrible to the head. This mental impairment is often connected with a condition of hyperæmia of the brain.

The loss of memory that frequently precedes and accompanies disease of the brain is generally so insidious in its advances that it occasionally for a period altogether escapes observation. This mental symptom is often associated with headache, vertigo, slight loss of sensation and unrecognised hidden epileptiform, or even epileptic seizures. Occasionally, however, it exists for some time before any serious disturbance of the psychical, motor, or sensory functions is detected.

In the incipient stage of softening of the brain, as well as in those organic alterations in the delicate nerve vesicle

observed in general and cerebral paralysis, the patient often exhibits a debility of memory, and that, too, long before cerebral disease is suspected in regard to the most ordinary and trifling matters connected with the every-day occurrences of life. He forgets his appointments, is oblivious of the names of his particular friends, mislays his books, loses his papers, and is unable to retain in his mental grip for many consecutive minutes, the name of the month or day of the week. He sits down to write a letter on some matter of business, and the attention being for a second diverted from what he is engaged in, he immediately loses all recollection of his correspondence and leaves the letter unfinished. In this condition of mind he will be heard constantly inquiring for articles that he had carefully put aside but for a few minutes previously. He neglects his dress and person, walking about the house in an unwashed condition, with his clothes most carelessly arranged, not from any indisposition to attend to his personal appearance, but from an unhealthy forgetfulness of, as well as morbid indifference to, the common courtesies, amenities, and decencies of life.

Sudden and transient attacks of forgetfulness, if associated with an inability to articulate clearly, are most grave and important symptoms when considered in relation to a questionable state of the brain. These temporary and apparently trifling conditions of impaired memory and defective speech are often the preludes to serious cerebral disease, the dark and threatening clouds that occasionally envelope, obscure, and often eclipse the mind previously to fatal attacks of paralysis, softening, apoplexy, and insanity.

A man, about fifty years of age, forgot his own name. He was from time to time convinced that he was dead. He no longer recognised his immediate relatives. He continued fifteen days in this state, when he died of an

attack of apoplexy. The *post mortem* examination revealed an extravasation of blood within one of the hemispheres of the brain. There was no other important cerebral lesion.*

Cases, however, occur of loss of memory connected with slight sympathetic disturbances of the cerebral functions, dependent upon disorder of the general health, which are amenable to judicious remedial treatment. John Hunter was subject to an affection of the kind. Sir Everard Home says of this illustrious physiologist and surgeon, "that he was on one occasion on a visit at the residence of a friend. He did not know in what part of the house he was, nor even the name of the street when he was told, nor where his own home was. He had no conception of anything existing beyond the room in which he was, and yet he was perfectly conscious of his loss of memory. He was sensible to various kinds of impressions, and therefore looked out of the window, although rather dark, to see if he could be made conscious of the situation of the house. The loss of memory gradually subsided, and in a few hours it was perfectly restored."

Temporary attacks of loss of memory are occasionally caused by excessive animal indulgences, intemperance, debauchery, injudicious use of mercurials, exhausting discharges. It is said by Suetonius, that the Roman emperor Claudius lost his memory so entirely from excessive gluttony, that he not only forgot the names and persons of those to whom he wished to speak, but even of what he intended to say when attempting to engage in conversation.†

Sir H. Holland refers to his own case as an example of

* Andral's "Clinique."

† By an old Spanish law no person was admitted into the witness-box to give evidence in a disputed legal case who was proved to indulge in habits of intemperance, as an excessive use of stimulants was considered to weaken and destroy the memory.

transient failure of memory resulting from bodily fatigue. He says—"I descended on the same day two very deep mines in the Hartz mountains, remaining some hours underground in each. While in the second mine, and exhausted both from fatigue and inanition, I felt the utter impossibility of talking longer with the German inspector who accompanied me. Every German word and phrase deserted my recollection, and it was not until I had taken food and wine, and been some time at rest, that I regained them."*

In many forms of brain disease and mental disorder, the memory, in the incipient stage, is confused and erratic. The patient recollects with sufficient clearness what he desires or wishes to recall to mind, but the images so reproduced are disjointed and in a state of *mêlée*. The brain and intellect are in a muddled and addled condition.

In the early periods of inflammatory as well as in white softening of the brain, this confused condition of the memory is a common symptom.

In certain states of perturbed and agitated thought, the ideas appear to lose their coherence and connexion, the mental faculties (particularly the memory) becoming quite confused. This often occurs to persons in health who are subject to paroxysms of violent passion and ill-governed emotion. Similar phenomena are observable in cases of insanity. These conditions of mind have been compared to the distorted reflections observed in a troubled piece of water: '*Les idées se rétablissent par le repose et le tranquillité, comme une eau qui cesse d'être agitée, represente des images fidèles.*"†

* "Mental Pathology," by Sir H. Holland, Bart., M.D., D.C.L., p. 167.

† "Dict. des Scien. Méd.," tome xii. p. 99.

CHAPTER XV.

CHRONIC AFFECTIONS OF THE MEMORY.

REMARKABLE modifications in the operations of the memory are occasionally seen connected with the early symptoms of brain disease, such as recollecting only the christian name of relations and intimate friends, confounding one name with another, being able only to pronounce words of a certain sound, an inability to remember or articulate (arising from paralysis and disease of the brain) particular letters of the alphabet.

A military officer occasionally forgot his name when walking in the public streets, and sometimes lost all notion of his address. He was in the habit of stopping strangers, and saying, "I live so-and-so—what is my name?" or, "I am Sir So-and-so—where do I reside?"

Mr Abernethy records the case of an injury of the head, which happened to a foreigner, twenty-seven years of age, who spoke English perfectly well. During his illness this man could only answer in French, and said he was but sixteen years old.

A man was taken into St Thomas's Hospital after receiving a considerable injury of the head. When he became convalescent he spoke a language which no one about him could comprehend. However, a Welsh milk-woman went one day into the ward, and immediately understood what

he said. It appeared that the patient was a Welshman, and had been absent from his native country about thirty years. In the course of that period he had entirely forgotten his native tongue, and acquired the English language. But when he recovered from his accident he forgot the language he had been so recently in the habit of speaking, and regained the knowledge of that which he had acquired and lost.

An old gentleman was seized with paralysis of the right side, associated with profound sleep. The same side was convulsed on the second day. On the ninth day he recovered from the state of stupor, but his faculties were gone. After several weeks he began to know his intimate friends, then to remember words, to repeat the prayers of his church, and read a few words of *German* (instead of *French*, his native language) every day. While making slow advances in knowledge, he died suddenly of an acute cerebral attack.*

After an attack of brain disease, a man had at his command only the first syllable of names—that is to say, he could not finish the pronunciation of one word although he knew the first syllable of it. An old man forgot the names of persons, but appeared to recollect very correctly every evening a remarkable epoch of his life, although it had occurred a long time previously. When sitting with his wife, he imagined he was at the house of a lady with whom, many years previously, he was in the habit of spending his evenings. He would then, addressing his wife, say, "Madam, I cannot stop any longer with you, for when one has a wife and children, we owe them a good example—I must return home." After this compliment he endeavoured to depart.

* A few of these illustrations are transcribed from Dr Prichard's "Treatise on the Diseases of the Nervous System."

A patient, in consequence of an injury to the brain, forgot how to *read*, but was still able to *write* fluently and correctly. After two attacks of apoplexy, a man forgot his own name, as well as that of his wife, children, and all his friends. He became restless, suspicious, and very irritable. Eventually his memory was partially restored. He was enabled, however, to repeat only the following expressions —"yes," "no," "much," "very well," "not at all," "it is true," "it is just," "it is wonderful." These words, which he generally applied with tolerable accuracy, were almost the only ones he knew how to use.

After an attack of paralysis a lady suffered from a singular defect of memory. In speaking she only used the infinitive of verbs, and did not employ any pronouns. For example, instead of saying "I wish you good day; stop, my husband has just come," she would remark, "To wish good day; to stop husband to come." For a long time this patient could not count beyond the number three, but eventually was able to go as high as forty. She eventually succeeded in obtaining a knowledge of pronouns without being able to make a proper application of them.

A very intelligent and highly respectable young lady, after much painful and prolonged family altercation, married a man whom she passionately loved. After her first confinement she suffered from an acute bodily affection, followed by protracted and distressing debility. On her apparent recovery she lost altogether the recollection of the time that had elapsed since the day of her marriage. She remembered, with remarkable vividness, every previous event of her life; but from the day of her marriage every idea appeared to have been obliterated. When her husband made advances, she repudiated all knowledge of or relationship to him. She acted in the same way with regard to the child. Her parents and her friends, by their

authority, succeeded in persuading her that she was in reality married, and had given birth to a son. She attached some degree of faith to their assurances, because she would rather believe that she had lost the recollection of her wedding-day than entertain the notion that her friends and relations were lying impostors. She, however, beheld her husband and child without being able to imagine by what magic she had acquired possession of the one and given birth to the other.

"In August 1785," says Dr Hertz, "I was called to an officer of the artillery, a man about forty years old, who, as I was informed, was seized with a palsy in consequence of cold and violent anger. His tongue, hands, and feet were paralysed by the attack. He was under the care of one of our first physicians, at whose desire I was consulted concerning the propriety of applying electricity. From the time that this remedy was first employed until the following year, I never saw him; but he then sent for me again, as his own physician, he said, had deserted him. I found him so much recovered as to have the complete use of his feet; his hands, also, were stronger; but in regard to his speech the following very remarkable circumstance was to be observed: he was able to articulate distinctly any words which either occurred to him spontaneously, or when they were slowly and loudly repeated to him. He strenuously exerted himself to speak, but an unintelligible kind of murmur was all that could be heard. The effort he made was violent, and terminated in a deep sigh. On the other hand, he could read aloud with facility. If a book or any written paper was held before his eyes, he read so quickly and distinctly, that it was impossible to observe that there was the slightest fault in his organs of speech. But if the book or paper were withdrawn, he was then totally incapable of pronouncing one of the words which he had read the instant

before. I tried this experiment with him repeatedly, not only in the presence of his wife, but of many other people. The effect was uniformly the same."*

Dr Osborn, who has published an interesting paper on the loss of the faculty of speech and memory, in connexion with disease of the brain, considers that there are two kinds of loss of memory of language; the first he believes to be usually connected with softening of some portion of the brain, and is most frequently witnessed in advanced age. This is characterised by an imperfect recollection of dates, names of places, as well as of persons; but as far as the muscular powers of articulation have not been impeded by paralysis, the faculty of language remains unimpaired, and the individual speaks with his usual facility, until all the faculties become involved in the disease, and total fatuity results.

The other imperfection involves language in all its parts nearly in an equal degree, except in the slighter forms, when proper names, or other words of less frequent occurrence, are alone affected. It does not consist in want of memory of the word to be pronounced, but in the loss of recollection of the mode of using the vocal apparatus so as to pronounce it. This peculiar affection comes on during all ages. Although appearing to arise from disease of the brain, yet it is not necessarily the precursor of any serious cerebral affection.

Defective or perverted memory is one of the common results of concussion of the brain, and even succeeds some of the slighter forms of mechanical injury to the head. Numerous cases illustrative of this fact are upon record. A soldier, who was trepanned, lost in the operation some portion of the brain. It was afterwards discovered that he had forgotten the numbers *five* and *seven*, and was not able

* Psychological Magazine, vol. viii.

until some time to recollect them. A man of scholastic attainments lost, after an attack of acute fever, all knowledge of the letter F. A gentleman who was thrown from his horse, and who suffered from a severe concussion of his brain, for some months after the accident entirely lost all memory of his own children's names.

Sir B. Brodie mentions the case of a groom who, whilst cleaning a horse, was kicked so as to produce concussion of the brain. He quickly recovered from the shock, and having quite forgotten what he had been about, he informed those near him that he must "go and get the horse out of the stable to clean him."

Wepfer relates the case of a gentleman who, after having received a partial injury to the head by a fall from his horse, found that he had entirely lost the knowledge of a particular language with which he had been well acquainted, although his memory in other respects remained uninjured.

A young man about twenty years of age, a miner by trade, fell from a height of a dozen feet, alighting upon his heels, but receiving such a shock that he was insensible for half an hour and unable to articulate distinctly. At the expiration of a couple of years he was taken to the Hôtel Dieu, being supposed to labour under hemiplegia.

The patient was carried into the operating theatre and examined by Baron Dupuytren, under whose care he was placed. He was emaciated, pale, and rather embarrassed in his manner, but not presenting the least appearance of idiocy or feebleness of intellect.

"What is your profession?" asked the Baron.

"*Mine*—" answered he with considerable difficulty, and it was only after repeated efforts that he was able to articulate "*mineur*."

"What age are you?"

"*Ving—t—t—d—eux—ans.*"

"Your name?"

"*Jacques Col—in—Col—as—Col—ard.*"

"Have you any brothers and sisters?"—"*Oui.*" "How many brothers?"—"*Un.*" "How many sisters?"—"*Trois.*" "What is your father?"—"*Peintre.*" "What profession is the husband of your eldest sister?"—"*V—V—Ver—*" "Vitrier?" (a glazier) asked M. Dupuytren. He shook his head. "Does he make bottles?"—Sign in the negative; and "*V—V—Ver—*" was all he could pronounce.

"Do you understand what I am asking you?" said the surgeon.—"*Oui.*" "Strike the table." He struck it. "Lift up your foot; put it back upon the ground; turn your head to the right side, to the left; walk forwards; return; put on your cap," &c. He was obeyed with the most military precision. The muscular motions of the tongue were free enough, and it was evident that nothing like paralysis or hemiplegia existed.

On being ordered to repeat *sa, se, si, so, su,* he was unable to articulate the two latter, and merely pronounced the *o* and *u.* Instead of *mon père,* he could only answer *pè—*; for *ma, mère,* he answered *mè—*. The examination was completed, and the patient walking off without a salutation, when M. Dupuytren called him back and told him to doff his cap. He did as he was required. "Bid the gentlemen *adieu.*"—"*Ad—d—eu,*" said he, and walked away.

On a subsequent day experiments were made to ascertain whether the tongue, as the organ of *taste,* continued perfect in its functions. Salt, sugar, and pepper were the substances employed; the first of which he recognised, the second he confounded with the first, and the pepper he called rum. On giving him some water he knew and drank it without the slightest difficulty.

The patient evinced no signs whatever of feebleness of intellect, and the muscular motions of the tongue were free and unembarrassed. M. Dupuytren considered the affection as resembling what occasionally occurs after apoplexy or chronic affections of the brain, where the patient suffers loss of the memory of things, or particular words, as proper names, substantives, or adjectives. In some individuals the power of judging and comparing objects is destroyed. An old lady, after an attack of hemiplegia, preserved the general use of her intellectual faculties, but could only answer to whatever question she was asked—"*Saint Antoine! Saint Antoine!*" M. Dupuytren considered, in the case previously recorded, the affection of the tongue (both as an organ of articulation and of taste) as rather depending on a general affection of the brain, than on a local lesion of the two sets of nerves which endow the organ with the sense of taste and the power of motion.*

A French soldier was hit at the battle of Waterloo by a bullet on the exterior of the forehead, six or eight millimetres from the left eyebrow, and in the point corresponding to the curved line on the temporal fossa. He fell senseless, and remained two days and nights on the field of battle. He was subsequently conveyed to Brussels, and although many attempts were made to extract the ball, they proved fruitless. Bleeding and other remedies were adopted to remove the paralysis of the side and other existing symptoms of brain compression. After some months he was received into the military hospital at Paris. The wound, on examination, presented an inflamed circumference, and in the centre the ball was imbedded in the substance of the *os frontis* to that depth that the half of it must have projected into the cranial cavity. After a period he was fit for active service, but it was discovered

* Clinique.

that he had lost the memory of proper names and of some substantives, although all his powers of reasoning were unimpaired.

He eventually died of consumption, the singular mental defect referred to continuing up to the time of his death. M. Larrey, who related the case at the Academy of Medicine, exhibited the skull with the ball firmly fixed in the previously-mentioned place, the internal table of bone having been fractured and forced inwards at the moment of the accident.

A young woman, at each periodical change of health, forgot entirely all that occurred to her during the interval. On one occasion, at the time of the intermission, she inflicted a serious injury upon a person with whom she had a dispute. The case came into court a few days afterwards, when she denied the fact upon oath. The plaintiff being condemned to costs, brought witnesses to corroborate her charge, and established that the defendant had denied upon oath what was the fact, but without any sinister object.

Thucydides records, that after the plague of typhus fever which followed, in the Dorian war, the famine at Athens, many who recovered from the epidemic entirely lost their memories. So completely was such the case that they not only forget the names of their friends and relations, but their own.* A somewhat similar impairment of memory has been observed to follow all great epidemics and severe national disasters. Dr Gase refers to this phenomenon.† Sydenham remarks, that after the epidemic fever that prevailed in 1673 the memory of those who had been ill was singularly affected.

Prolonged exposure to a low as well as to a high degree

* Thucydides, lib. ii. cap. 49.

† "History of the Epidemic of Wilna," by Dr Gase.

of temperature has been known temporarily and permanently to paralyse the memory. It would therefore be naturally expected that on the retreat of the French from Moscow, during Bonaparte's Russian campaign, many of the soldiers and officers would exhibit great enfeebleness of mind, consequent, as it was supposed, upon their exposure to great mental anxiety, physical privation, and intense cold. The Emperor's intellect, it would appear from Count Philip de Segur, was also temporarily affected as the consequence of great anxiety of mind. The Count has published some interesting details of the effects of the terrible calamities and severe sufferings that overwhelmed that heroic band of soldiers upon the sensitive mind of their illustrious chief. When these facts are philosophically considered, we need not feel surprised at the influence they exercised, not only upon the intellect of the Emperor, but upon the minds of the marshals who fought so gallantly by his side. During the battle of Semenowska, when Ney sent an aide-de-camp to the Emperor for instructions, Count Segur says—"He merely made some gestures of melancholy resignation on every occasion when they came to inform him of the loss of his best generals. He rose several times to take a few turns, but immediately sat down again. Every one around him looked at the Emperor with astonishment. Hitherto, during these great shocks he had displayed an active coolness; but here it was a dead calm, a mild and sluggish inactivity. Some fancied they traced in it that dejection which is generally the follower of violent sensations; others that he had already become indifferent to everything, even to the emotion of battles. Several remarked that the calm constancy and *sang-froid* which great men display on these occasions turn, in the course of time, to phlegm and heaviness when age has worn out their springs. Those who were most

devoted to him accounted for his immobility by the necessity of not changing his place too much, when he was commanding over such an extent, in order that the bearers of intelligence might know where to find him. Finally, there were others who, on much better grounds, explained the whole by the shock which his health had sustained, and his violent indisposition."

At another period of the day, during the same battle, Murat sent Belliard to the Emperor for advice. Belliard informed the King of Naples that "he had found Napoleon still seated in the same place, with a suffering and dejected air, his features sunk, and a dull look; giving his orders languishingly, in the midst of these dreadful warlike noises, to which he seemed completely a stranger." Ney expressed, in strong and unguarded language, his sentiments as to the apathy of the Emperor, but, as Count Segur observes, "Murat was more calm. He recollected having seen the Emperor the day before, as he was riding along observing that part of the enemy's line, halt several times, dismount, and with his head resting upon the cannon, remain there some time in the attitude of suffering. He knew what a restless night he had passed, and that a violent and incessant cough cut short his breathing. The king guessed that fatigue and the first attacks of the equinox had shaken his weakened frame, and that, in short, at that critical moment, the action of his genius was, in a manner, chained down by his body, which had sunk under the triple load of fatigue, of fever, and of a malady which, probably more than any other, prostrates the moral and physical strength of its victims."

When referring to the temporary mental prostration of Napoleon during the calamitous retreat of the French army, Count Segur remarks:—"The Russian autumn had triumphed over him; had it not been for that, perhaps the

whole of Russia would have yielded to our arms on the plains of the Moskwa; its premature inclemency was a most seasonable assistance to their empire. It was on the 6th of September, the very day before the great battle, that a hurricane announced its fatal commencement. Ever since the night of that day a burning fever had dried up the Emperor's blood, and oppressed his spirits; he was quite overcome by it during the battle, and the state of suffering he endured for the five following days arrested his march, and bound up his genius. This it was which preserved Kutusof from total ruin at Borodino, and allowed him time to rally the remainder of his army, and withdraw it from our pursuit." *

Boerhaave mentions the particulars of a Spanish tragic author, who, in consequence of an attack of acute fever, so completely lost all memory, that he forgot not only the languages he had formerly learnt, but even their alphabets. His own poems and compositions were shown to him, but it was impossible to convince him that they were his production. He afterwards, however, began again to compose verses, which had so striking a resemblance to his former writings, that he at last became convinced of his having been the author of them.

Numerous cases are recorded of sudden temporary failure

* "History of the Expedition to Russia by the French Army in 1812," vol. i. pp. 338-9, 342-3, 363.

"Why has the exile of St Helena always been placed, by the well-judging part of mankind, upon the list of criminals rather than regarded as a lunatic? Because neither the energy of his volitions nor the strength of his fancy was ever exalted to such a pitch of intensity as to interfere with his perceptions. In the most giddy moments of his ambitious career he did not conceive himself possessed of more than mortal force. To constitute the state of real madness, it is necessary that the imaginative ideas become so vivid as to be exalted to the strength of actual belief. 'Madness,' says Sauvages very impressively, 'is the *dream* of him who is awake.'"—*Quarterly Review.*

of the memory from an undue exercise and straining of this faculty.

A man of rather weak intellect, who held an office the sole duties of which consisted in signing his own name to a number of papers, had so weakened his memory that he at last was incapable of recollecting the word he ought to sign. Mr Von B., formerly envoy to Madrid, and afterwards to St Petersburg, a man of a serious turn of mind, yet by no means hypochondriacal, went out one morning to pay a number of visits. Among other houses at which he called there was one where he suspected the servants did not know him, and where he consequently was under the necessity of giving in his name, but this he had at that moment entirely forgotten. Turning round immediately to a gentleman who accompanied him, he said, with much earnestness, "For God's sake, tell me who I am?" The question excited laughter, but as Mr Von B. insisted on being answered, adding that he had entirely forgotten his own name, he was told it, upon which he finished his visit.

Occasionally in certain morbid conditions of the brain connected with organic alterations in the nerve matter, or disordered conditions of the cerebral circulation, the patient loses for a period all knowledge of his native language. Persons in a state of delirium have been known to address those about them in the ancient tongue. Dr Johnson, when dying, forgot the words of our Lord's Prayer in English, but attempted to repeat them in Latin.* Dr Scandella,

* Dr Johnson had a paralytic attack in the month of June 1783. After recovering from the acute symptoms of the seizure, his consciousness returned, and he then attempted to speak in the English language. Finding that he could not do so, he tried to talk Latin, but found this impossible. He then uttered a few words in Greek, but evidently the effort was very painful to him. In the evening of the day of his attack he called for paper and wrote a Latin hymn, addressed to the Creator,

an Italian gentleman of considerable scholastic abilities, resided in America. He was master of the Italian, French, and English languages. In the beginning of the yellow fever, which terminated his life in the city of New York, in the autumn of 1798, he spoke *English*, in the middle of his disease he talked *French*, but on the day of his death he spoke *Italian*, the language of his native country.

Dr Rush says, that the Rev. Dr Muhlenberg, of Lancaster, United States of America, when alluding to the German emigrants over whom he exercised pastoral care, observes—"People generally pray, shortly before death, in their native language. This is a fact which I have found true in innumerable cases among my German hearers, although hardly one word of their native language was spoken by them in common life and when in health."

Dr Hutchinson refers to the case of a physician who had in early life renounced the principles of the Roman Catholic Church. During an attack of delirium which preceded his death he prayed only in the forms of the Church of Rome, whilst all recollection of the prescribed formulæ of the Protestant religion was effaced and obliterated from the mind by the cerebral affection.*

Dr Rush cites a case of paralysis in which the premonitory symptom was forgetfulness how to spell the most common and familiar words. A gentleman, after an attack of paralysis, had no recollection of the names of any of his friends. He, however, designated them correctly by mentioning their ages, with which he appeared to be familiar.

the prayer of which was, that as long as the Almighty should graciously be pleased to permit him to live he should be allowed to have the enjoyment of his understanding—that his intellectual and bodily powers should expire together.

* Biographia Medica.

A man aged sixty-five, in consequence of an attack of apoplexy, forgot how to read, or even to distinguish one word or letter from another; but if a name or phrase were mentioned to him, he could write it immediately, and that, too, with the greatest accuracy. He was, however, incapable of reading or distinguishing what he had written; for if asked what a letter was, or how the letters were combined, it became evident that the writing had been performed *mechanically*, without any exercise of the reflection or judgment. In this case none of the means which were employed were successful in restoring the knowledge of letters to his mind.*

"A gentleman between fifty and sixty years of age, of temperate habits, nervo-bilious temperament, and with the moral sentiments and intellect predominating over the propensities, besides his professional duties as a clergyman, had been for several years engaged in writing a voluminous county history. One day, in the month of September 1839, he had been working without intermission in the compilation of an index for a volume of his history, then about to be published. Feeling drowsy, he laid himself down on a sofa, and slept for some time. On awaking he felt extremely cold, and, seeing a female in the room, he asked her who she was, not knowing his own wife. He afterwards became giddy and drowsy, but recovered from his disposition to sleep by medical treatment. Since that time he can seldom remember rightly the *name* of any article, place, or person, neither can he recollect numbers. Though he recognises persons he was previously acquainted with, he can seldom mention their names. In talking on any subject he constantly calls one thing by the name of another, so as to render his conversation nearly useless. On attempting to read, a dull pain attacks the region of his perceptive organs,

* Ephemerides Curiosæ.

and particularly the organ of language. He becomes giddy, and before he can get to the end of a line, the whole appears a blank. His sight he considers as not so good as previously to the attack; complains much of a cold head; remembers better when his eyes are closed, or when stooping. He often showed absence of mind in conversation and in reading for many years previously to the attack. His reflective, moral, and animal organs appeared unaltered; his appetite is good, his general health improved, and he enjoys bodily exercise. In conversation he reasons on his malady, and gives a clear account of the attack. When he was a boy at school he suffered occasionally from a dull pain in the region of the perceptive organs, and it has frequently recurred during his subsequent life."*

Wepfer relates the particulars of the case of a man who, after recovering from the effects of an attack of apoplexy, was found to know nobody and remember nothing. After several weeks he began to observe his friends, remember words, repeat our Lord's prayer, and to read a few words of Latin rather than German, which was his native language. When urged to read more than a few words at a time, he said, with a heavy sigh, "I formerly understood these things, but now I do not." After some time he began to pay more attention to what was passing around him, but whilst thus making slight and gradual progress, he suddenly died of apoplexy.

Willis refers to the case of a man who, in recovering from an attack of putrid fever, was found to have so entirely lost his mental faculties that he recognised no one, remembered and understood nothing—"*Vix supra brutum saperet.*"

A patient whom Dr Abercrombie attended, after recovering from an apoplectic attack, knew his friends per-

* The Phrenological Journal, vol. xiv. pp. 55, 56.

fectly but could not name them. Walking one day in the street, he met a person to whom he was very anxious to communicate something respecting a mutual friend; after various ineffectual attempts to make him understand whom he meant, he at last seized him by the arm and dragged him through several streets to the house of the gentleman of whom he was speaking, and pointed to the name-plate upon the door. A lady, after an apoplectic attack, recovered correctly her ideas of things, but could not name them. In giving directions respecting family matters she was quite distinct as to what she wished to have done, but could only make herself understood by going through the house and pointing to the various articles.

A man, after an accident, could not recall to mind the names of his relations; another could recollect no proper names without the assistance of his friends.

"A young woman," says Dr Shapter, "of weak intellect, subject to headaches and '*mal réglée*,' at the age of twenty-one experienced an attack of apoplexy. In her convalescence it was observed that she had lost all recollection of persons and occurrences. She early recollected her mother, without the power of calling her by name; at the end of a month she pronounced some words, though but very imperfectly, and her efforts to express herself involved her in almost unintelligible periphrases."

A French soldier received a compound fracture of the cranium, opening the superior longitudinal sinus. There were, in the first instance, symptoms of compression. When in the hospital of Antwerp he understood all that was said to him, and seemed quite intelligent. But he could only reply "*Ba-ba*" to interrogatories. It was rather singular to observe his evident vexation at his inability to give expression to his ideas.

Pietro Gillio, LL.D., aged forty, a native of Italy, is, or

rather was, a man possessing great comprehensiveness of mind, much vigour of intellect, of extensive acquirements, deeply read in metaphysics and general literature, and the perfect master of several languages.

In consequence of having been a prominent agent in the insurrection of Piedmont, he was condemned to death. Fortunately he effected his escape, and then became a solitary wanderer, for some years in Spain and the Channel Islands, and afterwards in England, where he supported himself by teaching the Italian and Latin languages.

Having been exposed to anxiety of mind, study, night-watchings, fastings, cold, and damp, he became affected, on the night of the 14th of April 1835, with headache, vertigo, and vomiting, succeeded by an indescribable confusion, after which these symptoms subsided.

On the 15th, Dr Shapter was called to him, in company with Mr Froom. They found him in a state of great excitement and irritability, pacing hastily up and down his chamber with unequal steps. He was incapable of articulation, and there was an almost total loss of the memory of language; for though his attention was readily attracted by speaking to him, yet the purport of what was said appeared to be in no way understood: if there were any indistinctness of hearing, it must have been but very slight. Deglutition difficult. The pupil of the right eye dilated, and but slightly answering to the impulses of light; the sight distant and indistinct; that of the left eye natural; the general expression of the eyes restless, and watching with anxious quickness those in the room. Pain in the back part of the head, but apparently not acute. Pulse rapid, unequal, 120; on the right side, strong, full, and vibrating, especially pronounced in the right subclavian and carotid arteries; on the left side, the arterial action small and weak.

General weakness of the left side, but not amounting to paralysis, excepting for the first hour or two after the attack. His landlady says, that at breakfast he was silent, irritable in manner, and looking anxious; that suddenly he made some effort as if to speak, and then rushed hastily from the house.

The usual antiphlogistic treatment indicated was pursued, such as bleeding, blisters, and purgatives. We early found, however, that he had not stamina to permit such means to be carried to any great extent.

On the 6th of June the arterial action of the right side was still tumultuous in the extreme. He could recollect *portions* of a few words, and, after repeated trials, could write some of the shortest ones correctly without the assistance of a dictionary; but words of three or four syllables were far beyond his powers of concentration; his efforts at composing a sentence were unavailing, as well as the understanding one addressed to him: he had no command of tongue. He commenced studying, with the most feverish anxiety, the English lexicon, and, in great measure, managed to explain himself by pointing to particular words; but his capacity for re-learning language appeared limited and confined.

After this he had an excessive secretion from the membrane of the nose and fauces. In October he complained of some tenderness on pressure over the lumbar vertebræ, which was relieved by the application of leeches and a blister. He then took to reading various books on diseases of the brain, as well as on worms, to which he said he had been prone. He occasionally drew up reports of his symptoms, and one, which he received about Christmas, is transcribed by Dr Shapter. In the beginning of December he sent a memorandum, in which he took a comparative view of his symptoms, stating the whole number as one hundred, and then giving each symptom its relative proportion

according to his estimate of its intensity and importance The following is the report alluded to:—

"Sir, dear—have a symptom of illness—viz. 1, spit in night and day—2, dry cough—3, an unequal pulse—4, no sleep—5, uninclination to go to stool and non-evacuate thing *quite*—6, swoon—7, loathing of food and other times a voracious appetite—8, a privation of speech—9, foot, hand bad, a hinde right—paleness of the face and times red of the face—11, whitish colour urine (teeth, nose—throat).

"In first attack 15 April, I had swoon in stool, not evacuate quite the bowels; and was sleep and was awaken and privation.

"(Mr Duval).

"In child in is pains of worm—medicine—rue and wormwood.

"In 15 year, the same pains, medicine, oil, &c.

"in jersey—no medicine except rhubarb; in Guernsey—medicine—calomel; in Plymouth—no medicine; in Exeter is privation of speech.

"Mrs —— non speak true to Dr Shapter, viz. 1, 2, 4, 5.

"(non speak—write). "*P. Gillio.*"

In September 1836, having received a free pardon from the King of Sardinia, and being about to return to Vico, his native place, Dr Shapter took the subjoined final note of his condition:—

Has now a nearly perfect recollection of facts, of ideas, and of his past life generally; and has also recovered the recollection of many words when written before him, and to a lesser extent when spoken to him. This difference does not depend on any deafness. His powers of reading are soon exhausted, and he has, for the most part, lost the faculty of properly arranging and constructing his sentences, and is now almost incapable of articulating with

correctness the few words he has with difficulty re-acquired. His general irritability is much decreased, and the pain on pressure of the spinal column has subsided entirely; but he complains much of painful pulsations in the posterior part of the head and neck, occurring especially during the night and towards morning. Pervigilia; pulse 104, in right side strong, left weak; the general strength of the right side restored; pupil of right eye still dilated, the sight rather more distinct than that of the left; the indistinctness of vision almost recovered from; habit of body costive; appetite good only towards evening. General health from the period of the first attack, though slowly, yet progressively improves.*

The proximate cause of these symptoms was thought to be a rupture of a blood-vessel at the base of the brain, or the superior portion of the spinal column. It was considered that some coagulum had been formed near that part where the glosso-pharyngeal and lingual nerves arise. As the eyesight was not particularly affected, but as there was some loss in the powers of adaptation of the right eye, it was concluded that the optic nerve was intact, but that the motor nerves of these parts were disordered.

Dr Baillie describes a curious case of impaired memory produced by paralysis. A gentleman, aged fifty-six, was seized with symptoms of compression of the brain, and became completely paralytic on the right side. It was found that he had lost the recollection of the words of his own language, except a very few which he pronounced with the greatest distinctness, and with a variety of tones to express pleasure and displeasure, joy and sorrow, to explain the circumstances of his disorder, and to give directions about what he wanted, without being aware they were not the proper words to express his meaning.†

* Related by Dr Shapter of Exeter.

† Medical Transactions of the College of Physicians, vol. iv.

A gentleman, forty-six years of age, who had always enjoyed a good state of health, after experiencing great uneasiness of mind, and being exposed to severe bodily fatigue, was seized with apoplexy, followed by hemiplegia. The apoplexy was slight, but the hemiplegia was complete. The power of speech was entirely lost, so that he could only utter the sounds *ee-o*, which, however, he so varied that, with the assistance of expressive gestures, he was able to convey to those about him his meaning very distinctly upon ordinary subjects. He perfectly comprehended everything that was said to him, and clearly understood what he meant to answer, but was able only to utter the previously-mentioned sounds. Believing, however, that he actually employed the words adapted to the communication of his ideas, he often appeared surprised and displeased when he was not understood. He sometimes endeavoured to explain his meaning by writing on a slate; but he generally substituted one word for another, and almost always erred in spelling what he wrote.*

The following interesting case of loss of language, following acute disease of the brain, is on record:—

"Harriet C., aged twelve, had typhus fever in December 1845. She had much delirium and low symptoms, but, as is usual with children, soon got about again, and was able to return to school. However, after a few days' attendance, she was one evening, on returning thence, taken with a fit of an undecided epileptic character, had rigors, and was again delirious. The delirium was monotonous, and remarkable for her constant repetition of the word 'sinner' with every variety of intonation. Wine and bark were, as during her former attacks, resorted to, but symptoms of slight effusion in the brain caused its suspension. She recovered after a few weeks so as to be up and dressed, but

* "On Nervous Diseases," by Dr Cooke.

with the loss of power to pronounce any word except the one she had so often repeated during her fever. This she made serve to express all her ideas; for denial she shook her head, and said 'sinner:' assent was expressed by the same word, and bread-and-butter was called 'sin-un-sinur.' She perfectly understood all that was said to her, and appeared capable of reading her usual lessons. Blisters were applied behind her ears, and small doses of mercury administered, and at the same time her mother and family were instructed to teach her as they would an infant to talk. I also took opportunities of showing her, by exaggerated motions of my mouth and throat, the way of forming the letters in the manner in which the born deaf and dumb are instructed, and found her intelligent and ready. She soon acquired the word 'yes,' and other elementary expressions, and by the end of the spring was able, as her mother told me, 'to talk like an old woman.' Symptoms of consumption had, however, appeared, and she died this last summer under the care of another medical man, whose kind efforts to obtain a *post mortem* examination for me were unavailing."

"A farmer in the county of Wicklow, in comfortable circumstances, when fifty years of age had a paralytic fit. Since that time he has never recovered the use of the affected side. The attack was succeeded by a painful hesitation of speech. His memory was good for all parts of speech except noun-substantives and proper names—the latter he could not at all retain. This defect was accompanied by the following singular peculiarity: he perfectly recollected the initial letter of every substantive or proper name for which he had occasion in conversation, though he could not recall to his memory the word itself. Experience had taught him the utility of having written in manuscript a list of the things he was in the habit of calling for or

speaking about, including the proper names of his children, servants, and acquaintances: all these he arranged alphabetically in a little pocket dictionary, which he used as follows:—If he wished to ask anything about a cow, before he commenced the sentence he turned to the letter C, and looked out for the word 'cow,' and kept his finger and eye fixed on the word until he had finished the sentence. He could pronounce the word cow in its proper place so long as he had his eyes fixed upon the written letters; but the moment he shut the book it passed out of his memory, and could not be recalled, although he recollected its initial, and could refer to it when necessary. In the same way, when he came to Dublin, and wished to consult Dr Graves, his physician, he came with his dictionary open to the hall-door and asked to see Dr Graves; but if by accident he had forgotten his dictionary, as happened on one occasion, he was totally unable to tell the servant what or whom he wanted. He could not recollect his own name unless he looked out for it, nor the name of any person of his acquaintance; but he was never for a moment at a loss for the initial which was to guide him in his search for the word he sought.

His was a remarkably exaggerated degree of the common defect of memory observed in the diseases of old age, and in which the names of persons and things are frequently forgotten, although their initials are recollected. It is strange that substantives or proper names, words which are the first acquired by the memory in childhood, are sooner forgotten than verbs, adjectives, and other parts of speech, which are a much later acquisition."*

* "Dublin Quarterly Journal of Medical Science;" a case recorded by Dr Graves.

CHAPTER XVI.

PERVERSION AND EXALTATION OF MEMORY.—MEMORY OF THE INSANE.

PERVERSION OF MEMORY.—There is a curious modification of the memory connected with a sudden or gradual loss of the remembrance of everything, save one object in the morbid contemplation of which the mind is exclusively absorbed. Andral refers to a very singular perversion of the memory which consists in the patient remembering everything except himself. He has, as it were, forgotten his own existence, and when he speaks of himself, it is in the third person, the words I or ME not being in his vocabulary.* A woman when speaking of herself, always said, "*la personne de moi-même.*"

An old soldier who was in the asylum of Saint Yon, believed that he was killed at the battle of Austerlitz. When he spoke of himself, he was in the habit of saying, "This machine, which they thought to make like me, is very badly manufactured." When he spoke of himself he did not use the personal pronoun I, but the demonstrative pronoun THAT, as if speaking of some inanimate object.

A man seventy years of age was suddenly seized with lock-jaw, and formication over the surface of the body. This was succeeded by vertigo and a strange alteration in

* Clinique Médicale.

his language. He spoke with ease and fluency, but often made use of odd words which nobody understood. He appeared to have coined new phrases in the place of others which he had forgotten. Occasionally he mixed numbers instead of words in his conversation, and in this respect the memory appeared to have been altered in its mode of action.

John Hunter refers to a singular case of perversion of the memory succeeding an attack of acute disease of the brain. A gentleman, who, besides referring the circumstances of his early life to the present period, had to such an extent lost all idea of the connexion between the *past* and the *present*, that although his mind could direct him as to what was to be done in consequence of certain impressions, and would direct him rightly as to the part of the body affected by them, was in the habit (having apparently lost all notion of his own identity) of constantly referring his own sensations to those immediately about him. Thus, he would tell his nurse and the bystanders that he was certain that *they* were hungry or thirsty; but on offering him food or drink, it was evident by his eagerness that the absurd idea had been suggested by a sense of hunger and thirst, and that the word *they* referred to himself and not to others.

He was subject to a violent cough, and after each paroxysm he would, in very appropriate and sympathetic terms, resume the subject on which he had been previously conversing, expressing, however, his feelings of distress from having witnessed the sufferings of his friend, adding, "I am sorry to see that *you* have so troublesome and harassing a cough."

A gentleman who was in the habit of indulging in "potations, pottle deep," whenever he became intoxicated invariably referred his own perverted sensations in a similar

way to those immediately about him. Hence, upon going home, he, imagining all the family to be in the lamentable state to which he had reduced himself, would insist on undressing and putting them to bed, declaring that they were all too drunk to do so for themselves.

An Irish porter forgot when sober what he had done when drunk, but being drunk again, distinctly recollected the transactions that had occurred during his former state of intoxication. On one occasion he had mislaid a parcel of some value, and in his sober moments could give no account of its *locus in quo*. He again became intoxicated, and then clearly recollected that he had left the parcel at a certain house, and, having no address on it, had remained there safely, and was immediately given to the party who claimed it.*

The following remarkable cases of erratic memory, evidencing itself in certain morbid conditions of brain disorder, are deserving of notice. They are supposed to form striking illustrations of the phenomenon of "double or divided consciousness;" or, as suggested by Mr Combe, "double personality manifesting itself in the exhibition of two separate and independent mental capabilities in the same individual; each train of thought and each capability being wholly dissevered from the other, and the two states in which they respectively predominate, subject to frequent interchanges and alterations."

The patient's age was sixteen; the affection appeared immediately before puberty, and disappeared when that state was fully established. It lasted from the 2d of March to the 11th of June 1815, under the eye of Dr Dyce. The first symptom was propensity to fall asleep in the evenings. This was followed by the habit of *talking* in her sleep on these occasions. One evening she fell asleep in this manner, ima-

* System of Phrenology, by Mr Combe.

gined herself an episcopal clergyman, went through the ceremony of baptizing three children, and gave an appropriate extempore prayer. Her mistress took her by the shoulders, on which she awoke, and appeared unconscious of everything, except that she had fallen asleep, of which she showed herself ashamed. She sometimes dressed herself and the children while in this state, or, as Mrs L. called it, "dead asleep;" answered questions put to her in such a manner as to show that she understood what was said; but the answers were often, though not always, incongruous. One day, in this state, she set the breakfast with perfect correctness with her eyes shut. She afterwards awoke with the child on her knee, and wondered how she got on her clothes. Sometimes the cold air awakened her, at other times she was seized with the affection while walking out with the children. She sang a hymn delightfully in this state, and, from a comparison which Dr Dyce had an opportunity of making, it appeared incomparably better done than she could accomplish when well.

Subsequently a still more singular and interesting symptom made its appearance. Circumstances which had occurred during the paroxysm were completely forgotten by her when it was over, but were perfectly remembered during subsequent paroxysms. Her mistress said, that when in this stupor on previous occasions she told her what was said to her on the evening on which she baptized the children. Other instances of this kind are given. A depraved fellow-servant, understanding that she wholly forgot every transaction that occurred during the fit, clandestinely introduced a young man into the house, who treated her with the utmost rudeness, while her fellow-servant stopped her mouth with the bed-clothes, and otherwise overpowered a vigorous resistance which was made by her, even during the influence of her complaint. Next day she had not the

slightest recollection even of that transaction, nor did any person interested in her welfare know of it for several days, till she was in one of her paroxysms, when she related the whole facts to her mother. Next Sunday she was taken to the church by her mistress while the paroxysm was on her. She shed tears during the sermon, particularly during the account given of the execution of three young men at Edinburgh, who had described in their dying declarations the dangerous steps with which their career of vice and infamy took its commencement. When she returned home she recovered in a quarter of an hour, was quite amazed at the questions put to her about the church and sermon, and denied that she had been in any such place; but next night, on being taken ill, she mentioned that she had been at church, repeated the words of the text, and, in Dr Dyce's hearing, gave an accurate account of the tragical narrative of the three young men by which her feelings had been so powerfully affected. On this occasion, though in Mrs L.'s house, she asserted that she was in her mother's.*

A young lady, possessed naturally of a very good constitution, arrived at adult age without having it impaired by disease. She had an excellent capacity, and enjoyed fair opportunities of acquiring knowledge. Besides the domestic arts and social attainments, she had improved her mind by reading and conversation, and was well versed in penmanship. Her memory was capacious, and stored with a copious stock of ideas. Unexpectedly, and without any forewarning, she fell into a profound sleep, which continued several hours beyond the ordinary term. On awaking, it was discovered that she had lost every trait of acquired knowledge. Her memory was a *tabula rasa*—all vestiges, both of words and things, were entirely obliterated. It was found necessary for her to re-learn everything. She

* Combe's Phrenology, p. 225.

even acquired, by new efforts, the arts of spelling, reading, writing, and calculating, and gradually became acquainted with the persons and objects around, like a being for the first time brought into the world. In these exercises she made considerable proficiency. But after a few months another fit of somnolency invaded her. On rousing from it, she found herself restored to the state she was in before the first paroxysm; but was wholly ignorant of every event and occurrence that had befallen her afterwards. The former condition of her existence she called the old state, and the latter the new state, and she was as unconscious of her double character as two distinct persons are of their respective natures. For example, in her old state she possessed all her original knowledge; in her new state, only what she had acquired since. If a gentleman or lady were introduced in the old state, and *vice versâ* (and so of all other matters), to know them satisfactorily she had to learn them in both states. In the old state she possessed fine powers of penmanship, while in the new she wrote a poor awkward hand, not having time or means to become expert. During four years and upwards she underwent periodical transitions from one of these states to the other. The alternations were always consequent upon a long and sound sleep. Both the lady and her family were capable of conducting the affair without embarrassment. By simply knowing whether she was in the old or new state, they regulated the intercourse, and governed themselves accordingly.*

Exaltation of Memory.—In some cases during the early period of brain disease, the memory is in a state of morbid exaltation, the patient having a vivid recollection of occurrences that happened many years previously, and which had apparently been long forgotten. In the cerebral diseases of early life this symptom is frequently

* Combe's System of Phrenology, p. 173.

present. In fever accompanied by an active state of the cerebral circulation the patient has been known to exhibit this mental condition to an intense degree. In some cases of insanity there is also an acute condition of this faculty; but whatever may be the concomitant circumstances, any *sudden* and unnatural exaltation of the memory, or of any other mental power (particularly if it be associated with other indications of brain disorder), should immediately excite medical attention.

Romberg refers to the case of a girl who, when very young, had a severe attack of small-pox. She lost her sight, but acquired an extraordinary memory. She repeated perfectly, on her return home, a long sermon she had recently heard. "It is well known," adds Romberg, "that the scrofulous and frequently the rachitic diathesis in childhood is accompanied by this phenomenon."

In the incipient state of brain disease of early life connected with acute fevers, disturbed conditions of the cerebral circulation and vessels, and in affections of advanced years, there is often witnessed a remarkable exaltation of the memory. Events that have occurred many years previously, and which were apparently obliterated from the mind, have been distinctly reproduced, and that too with extraordinary accuracy and vividness.

A sudden revivication or improvement of the memory occurring to persons in advanced life is occasionally precursory of death or fatal apoplexy. Hippocrates notices this phenomenon.

Among the incipient symptoms of cerebral hemorrhage and paralysis there is sometimes observed a disposition to talk garrulously respecting events that have long since been apparently forgotten.

An intelligent American travelling in the State of

Illinois was seized with bilious fever. "As very few live," he remarks, "to record the issue of a sickness like mine; and as you have requested me, and as I have promised to be particular, I will relate some of the circumstances of this disease. And it is in my view desirable, in the bitter agony of such diseases, that more of the symptoms, sensations, and sufferings should be recorded than have been, and that others in similar predicaments may know that some before them have had sufferings like theirs, and have survived them. I had had a fever before, and had risen and been dressed every day; but in this with the first day I was prostrated to infantile weakness, and felt with its first attack that it was a thing very different from what I had yet experienced. Paroxysms of derangement occurred the third day, and this was to me a new state of mind. That state of disease in which partial derangement is mixed with a consciousness generally sound and a sensibility preternaturally excited, I should suppose the most distressing of all its forms. At the same time that I was unable to recognise my friends, I was informed that my memory was more than ordinarily exact and retentive, and that I repeated whole passages in the different languages which I knew with entire accuracy. I recited, without losing or misplacing a word, a passage of poetry I could not so repeat after I had recovered my health, &c."*

Memory of the Insane.—It is generally considered that the memory is the first mental power that fails in insanity. I doubt this. It is true that in many cases the patient has but a feeble and confused recollection of the transactions of recent date, but is able vividly to recall to the mind the scenes of early life. It is undoubtedly a fact that the conversations of old incurable lunatic patients relate prin-

* Flint's "Recollections of the Valley of the Mississippi," Letter xiv.

cipally to the events of past years; but, at the same time, they do not manifest an utter obliviousness and forgetfulness of recent circumstances.

I have witnessed some singular instances among the insane of extraordinary retentiveness of memory relating to recent transactions, but I am bound to admit that this faculty is found in the majority of cases to be in an impaired and muddled state.

Shakspeare considers one of the essential elements in all cases of mental aberration to be an inability to revive past impressions, or to "re-word" that which he says the insane would gambol from :—

> "Ecstacy!
> My pulse, as yours, doth temperately keep time,
> And makes as healthful music; it is not madness
> That I have uttered. BRING ME TO THE TEST,
> AND I THE MATTER WILL RE-WORD, WHICH MADNESS
> WOULD GAMBOL FROM."—*Hamlet.*

This Shakspearean test has, however, long since been exploded.

I have previously spoken of the exaltation of memory often observed in cerebral disorder. The same phenomenon is remarkably characteristic of many forms, particularly the hysterical, of insanity. In these cases the organic and psychical sensibility is in a condition of extreme exaltation, and the memory generally exhibits marked evidence of activity.

CHAPTER XVII.

PSYCHOLOGY AND PATHOLOGY OF MEMORY.

It is difficult to suggest a physiological or metaphysical hypothesis which satisfactorily explains those remarkable conditions of mental paralysis, singular manifestations, and aberrations of memory (to which I have previously referred), as preceding, accompanying, and following acute and chronic affections of the brain, unless we espouse the doctrine of the indestructibility of ideas, and subscribe to the notion that no impression made upon the mind is ever destroyed.

If we accept this as an established philosophical theory, we can easily understand how subtle microscopic changes in the delicate nerve vesicle (*grey* matter of the brain) may cause great eccentricity and singular irregularity in the exercise of memory, and occasionally in certain morbid as well as healthy conditions of cerebral exaltation, awaken into active consciousness ideas imagined either to have no existence, or long since supposed to be buried in oblivion.*

* Is the permanent character of the pictures traced upon the memory dependent (as Locke surmises) on the "*temper*" of the brain, as if some impressions were made upon *marble*, others on *freestone*, and some on little better than on *sand?*

"*Cur seniores amplius mente valeamus, juniores citius discimus?*" asks Aristotle; why is it that in youth we learn more quickly, and wherefore is it, as age advances, the intellect becomes more powerful?

Annihilation exists but in the fancy. It is an illusion of the imagination, dream of the poet, the wild and frigid phantasy of the sceptic. Nothing obvious to sense admits of destruction. This is a well-established axiom in physics. It is not in the power of man to destroy the slightest particle of matter. What is termed destruction, as applied to material substances, is nothing but a change in their elementary composition or an alteration of their constituent atoms. God has not delegated to poor puny man the power of destroying any portion of the physical universe by which he is surrounded, and which ministers so bountifully and mercifully to his every necessity. He may, by the aid of chemical science, alter and re-arrange the existing combinations of organic matter, but, when disintegrated by such means, the particles so dissipated, and apparently destroyed, enter into new and different forms, and assume other types or compounds, but are never in their *original* nature and elements annihilated.

Are the subjoined speculations as to the persistent character of certain physical states of matter to be viewed as pure creations of the poetic fancy? Proceeding as they do from the pen of an acute philosopher, they are certainly entitled to the profound respect of all scientific and reflecting minds.

"The pulsations of air, once set in motion by the human voice, cease not to exist with the sounds to which they gave rise. Strong and audible as they may be in the immediate neighbourhood of the speaker, and at the immediate moment of utterance, their quickly-attenuated force soon becomes inaudible to human ears. The motions they have impressed on the particles of one portion of our atmosphere are communicated to constantly-increasing numbers, but the total quantity of motion measured in the same direction receives no addition. Each atom loses as much as it gives

and regains again from other atoms a portion of those motions which they in turn give up.

"The waves of air thus raised perambulate the earth and ocean's surface, and in less than twenty hours every atom of its atmosphere takes up the altered movement due to that infinitesimal portion of the primitive motion which has been conveyed to it through countless channels, and which must continue to influence its path throughout its future existence.

"But these aërial pulses, unseen by the keenest eye, unheard by the acutest ear, unperceived by human senses, are yet demonstrated to exist by human reason; and, in some few and limited instances, by calling to our aid the most refined and comprehensive instrument of human thought, their courses are traced and their intensities are measured. If man enjoyed a larger command over mathematical analysis his knowledge of these motions would be more extensive; but a being possessed of unbounded knowledge of that science could trace every the minutest consequence of that primary impulse. Such a being, however far exalted above our race, would still be immeasurably below even our conception of infinite intelligence.

"But supposing the original conditions of each atom of the earth's atmosphere, as well as all the extraneous causes acting on it to be given, and supposing also the interference of no new causes, such a being would be able clearly to trace its future but inevitable path, and he would distinctly foresee and might absolutely predict for any, even the remotest, period of time the circumstances and future history of every particle of that atmosphere.

"Let us imagine a being invested with such knowledge to examine at a distant epoch the coincidence of the facts with those which his profound analysis had enabled him to predict. If any the slightest deviation existed, he would

immediately read in its existence the action of a new cause; and, through the aid of the same analysis, tracing this discordance back to its source, he would become aware of the time of its commencement, and the point of space at which it originated.

"Thus considered, what a strange chaos is this wide atmosphere we breathe. Every atom, impressed with good and with ill, retains at once the motions which philosophers and sages have imparted to it, mixed and combined in ten thousand ways with all that is worthless and base. The air itself is one vast library on whose pages are for ever written all that man has ever said or woman whispered. There, in their mutable but unerring characters, mixed with the earliest as well as with the latest sighs of mortality, stand for ever recorded, vows unredeemed, promises unfulfilled, perpetuating in the united movements of each particle the testimony of man's changeful will.

"But if the air we breathe is the never-failing historian of the sentiments we have uttered, earth, air, and ocean are the eternal witnesses of the acts we have done. The same principle of the equality of action and reaction applies to them: whatever movement is communicated to any of their particles is transmitted to all around it, the share of each being diminished by their number, and depending jointly on the number and position of those acted upon by the original source of disturbance. The waves of air, although in many instances perceptible to the organs of hearing, are only rendered visible to the eye by peculiar contrivances; but those of water offer to the sense of sight the most beautiful illustration of transmitted motion. Every one who has thrown a pebble into the still waters of a sheltered pool has seen the circles it has raised gradually expanding in size and as uniformly diminishing in distinctness. He may have observed the reflection of those waves

from the edges of the pool—he may have noticed also the perfect distinctness with which two, three, or more waves each pursues its own unimpeded course when diverging from two, three, or more centres of disturbance—he may have seen that in such cases the particles of water, where the waves intersect each other, partake of the movements due to each series.

"No motion impressed by natural causes or by human agency is ever obliterated. The ripple on the ocean's surface caused by a gentle breeze, or the still water which marks the more immediate track of a ponderous vessel gliding with scarcely-expanded sails over its bosom, are equally indelible. The momentary waves raised by the passing breeze, apparently born but to die on the spot which saw their birth, leave behind them an endless progeny, which, reviving with diminished energy in other seas, visiting a thousand shores, reflected from each, and perhaps again partially concentrated, will pursue their ceaseless course till ocean be itself annihilated.

"The track of every canoe, of every vessel which has yet disturbed the surface of the ocean, whether impelled by manual force or elemental power, remains for ever registered in the future movement of all succeeding particles which may occupy its place. The furrow which it left is indeed instantly filled up by the closing waters, but they draw after them other and larger portions of the surrounding element, and these again, once moved, communicate motion to others in endless succession.

"The solid substance of the globe itself, whether we regard the minutest movement of the soft clay which receives its impression from the foot of animals, or the concussion arising from the fall of mountains rent by earthquakes, equally communicates and retains through all its countless atoms their apportioned shares of the motions so impressed.

"Whilst the atmosphere we breathe is the ever-living witness of the sentiments we have uttered, the waters, and the more solid materials of the globe, bear equally enduring testimony of the acts we have committed."*

What is true with regard to material holds good, *à fortiori*, respecting psychical phenomena. Hence the tonic, permanent, and indestructible character of the impressions made upon the cerebrum, and received and registered in the mind during infancy and childhood, as well as in adult age, as established by their resuscitation at all periods of life during certain normal and abnormal conditions of the vesicular brain structure and cerebral circulation.

I use the phrase "*received*" advisedly, for it must be admitted that there are many impressions which impinge themselves transiently on the mind—ideas that are evanescent in character, and therefore obtain no settled hold upon the consciousness—which cannot philosophically be deemed as *received* and *registered* in the memorial archives. Such are the fugitive notions which do not become objects of *perception*, that so frequently float upon and pass like shadows over the surface of the mind, in early as well as matured life, when the brain is not anatomically and physiologically organised or fitted for the facile perception, reception, and registration of ideas. There can be no doubt that the defective memory which so often accompanies old age is mainly dependent upon certain (as yet unexplained) modifications in the physical nutrition or chemical constitution of the brain interfering with that *vital, organic*, and I may add *psychical sensibility*, so essentially necessary for its ready adaptation to mental impressions. It may be that the ideas are in reality received, but that the faculty of *reminiscence* being either originally defective or enfeebled by age or disease, it ceases to obey the commands of the

* "Ninth Bridgewater Treatise," by C. Babbage, Esq.

will. The atrophy, as well as diminution in the depth and complexity of the convoluted surface of the brain, so often witnessed after death in aged persons, undoubtedly impairs that organic cerebral susceptibility and sensibility so necessary for the rapid and permanent reception of mental impressions.

"The images," says an illustrious English moralist, "which memory presents are of a stubborn and untractable nature. The objects of remembrance have already existed, and left their signature behind them impressed upon the mind, so as to defy all attempts at erasure or of change. Whatever we have once deposited, as Dryden expresses it, in the 'sacred treasures of the past,' is out of the reach of accident or violence, nor can it be lost, either by our own weakness or another's malice." *

"Non tamen irritum
Quodcunque retro est efficiet; neque
Diffinget, infectumque reddet
Quod fugiens semel hora vexit."
Horace, Lib. iii. Ode 29.

The seeds of immortal truth are not sown to perish, even in the loose soil where they have long lain disregarded.†

"Kein Wesen kann zu nichts zerfallen,
Das Ew'ge regt sich fort in allen,
Am Seyn erhalte dich beglückt!
Das Seyn ist ewig, denn Gesetze
Bewahren die lebend'gen Schätze
Aus welchen sich das All geschmückt."‡

How, it may be asked, can the medical philosopher reconcile with this latency and indestructibility of psychical conceptions the fact of the constant wear and tear, destruction and construction, waste and reparation, absorption and deposition of nerve-brain matter? Can the doctrine

* "The Rambler." Dr Johnson.
† "Amenities of Literature," by Isaac D'Israeli, vol. ii. p. 365.
‡ Goëthe's "Wilhelm Meister's Wanderjahre."

of the individuality and indivisibility of mind, and the metaphysical theory of the unity of the consciousness, be established on a scientific basis, if these physical laws are acknowledged thus materially to alter the structural organisation of the brain, and to produce modifications in its recognised intellectual moral and emotional manifestations?

Is not the gradual development of the mind from childhood to adult age, and its steady and melancholy decadence from a condition of youthful vigour and advanced maturity to that of second childhood and senile imbecility, connected with subtle changes in the composition of the cerebral matter and modifications in the organisation of the grey nerve vesicle, which we know to be in constant progression?

How can we explain the growth, expansion, and discipline which the mind undergoes as the effect of a system of educational training? By what physiological and psychical processes are the memory, attention, and reasoning faculties developed and invigorated by exercise? What is the rationale of the judgment being improved by judicious and careful cultivation, the moral sense elevated, the taste disciplined and chastened, or the volitional power increased? Are not these various conditions of mind the result of an inexplicable law regulating the action of nerve-matter? Is it possible to suppose that changes similar to those previously referred to, in the thinking principle, can be consequent upon any alteration in the mind *per se?* May not these developments and modifications in the psychical attributes of the cerebrum and gradual unfoldings of the intellect which we perceive through the various epochs of life be connected with and dependent upon either the growth, waste, and repair of cerebral brain-matter or some modifications in its chemical composition?

Are these psychical phenomena more occult and in-

scrutable to the philosopher than the physical facts that the physiologist is daily making matter of observation and reflection? How can we account for the transmission of particular types of disease, or certain modifications and eccentricities of physical organisation from generation to generation? Are these phenomena less obscure than the hereditary descent of mental idiosyncrasies, modulations of the voice and expressions of the countenance, from father to son, mother to daughter, from one generation to another? Slight distortions in the feet, peculiar malformations in the fingers, singular defects in the development of the muscles (regulating the movements of the eyes), moles, mother's marks, particular modes of articulation, have all been recognised to be physical defects, or, more properly speaking, modifications of or an arrest of structural development, that have existed in families for generations. How can these physical facts be reconciled with the prevailing notions of the organic revolutions constantly occurring in the animal economy?

If the attention be directed to the consideration of pathological phenomena, the physiologist is still more bewildered in his effort to unravel the mysterious and inexplicable laws regulating the living principle as far as it relates to or is connected with organisation. I refer to those subtle changes in the character of the blood effected in infancy by the introduction into it of minute portions of morbid animal matter, with a view of protecting the body from the influence of noxious and deadly poisons, but more particularly to the effect of vaccine virus upon the blood in producing a permanent and organic change in its constitution and character, which continues to exercise a protective influence against small-pox, in the great mass of cases, through a long life, during which time the blood must have undergone many thousands if not millions of changes

and modifications. If we could imagine a person so armed, by means of the introduction into the system of healthy vaccine matter under favourable bodily conditions for its reception, to be drained of nearly its last drop of blood, and subsequently restored to his original vascular condition, we should find no diminution in the force of its sanitary and protective effect upon the vital fluid in early life; in other words, he would continue shielded, certainly for many years, from the influence of small-pox poison.

How can this assimilative power of the blood be explained? Is the phenomenon less inscrutable than the permanent and indestructible character of all psychical impressions? When alluding to the blood's own assimilative power, Mr Paget remarks:—"After the vaccine and other infectious or inoculable diseases, it is most probably not the tissues alone, but the blood as much or much more than they, in which the altered state is maintained; and in many cases it would seem that, whatever materials are added to the blood, the stamp once impressed by one of these specific diseases is retained—the blood, by its own formative power, exactly assimilating to itself, its altered self, the materials derived from the food.

"And this, surely, must be the explanation of many of the most inveterate diseases—that they persist because of the assimilative formation of the blood. Syphilis, lepra, eczema, gout, and many more seem thus to be perpetuated in some form or other, and in ever-varying quantity; whether it manifests externally or not, the material they depend on is still in the blood, because the blood constantly makes it afresh out of the materials that are added to it, let those materials be almost what they may. The tissues once affected may (and often do) in these cases recover; they may have gained their right or perfect composition, but the blood, by assimilation, still retains its

taint, though it may have in it not one of the particles on which the taint first passed; and hence, after many years of seeming health, the disease may break out again from the blood, and affect a part which was never before diseased. And this appears to be the natural course of these diseases, unless the morbid material be (as we may suppose) decomposed by some specific, or be excreted in the gradual tendency of the blood (like the tissues) to regain a normal state, or, finally, be, if I may so speak, starved by the abstraction from the food of all such things as it can possibly be made from.

"In all these things, as in the phenomena of symmetrical disease, we have proofs of the surpassing precision of the formative process, a precision so exact that, as we may say, a mark once made upon a particle of blood or tissue is not for years effaced from its successors. And this seems to be a truth of widest application; and I can hardly doubt that herein is the solution of what has been made a hindrance to the reception of the whole truth concerning the connexion of an immaterial mind with the brain. When the brain is said to be essential, as the organ or instrument of the mind in its relation with the external world, not only to the perception of sensations, but to the subsequent intellectual acts, and especially to the memory of things which have been the objects of sense, it is asked, How can the brain be the organ of memory when you suppose its substance to be ever changing? or, How is it that your assumed nutritive change of all the particles of the brain is not as destructive of all memory and knowledge of sensuous things as the sudden destruction by some great injury is? The answer is, Because of the exactness of assimilation accomplished in the formative process. The effect once produced by an impression upon the brain, whether in perception or in intellectual act, is fixed and

there retained, because the part, be it what it may, which has been thereby changed, is exactly represented in the part which, in the course of nutrition, succeeds to it. Thus, in the recollection of sensuous things, the mind refers to a brain in which are retained the effects, or rather the likenesses, of changes that past impressions and intellectual acts had made. As, in some way passing far our knowledge, the mind perceived and took cognisance of the change made by the first impression of an object acting through the sense-organs on the brain, so afterwards it perceives and recognises the likeness of that change in the parts inserted in the process of nutrition." *

How fraught with interest of the most sublime and exalted character to the metaphysical philosopher, physician, and theologian is the theory of the indestructible character of all mental impressions.

In the present imperfect state of our knowledge of the intimate character, functions, and composition of nerve matter, admitted ignorance of the nature of the *vis nervosa*, limited knowledge of the laws governing the operations of thought, as connected with and dependent upon recondite alterations in the vesicular neurine of the brain, it would be useless to speculate as to the cause of the psychical phenomena to which I am about to refer. Much light may yet be thrown upon this important and intricate subject as the result of a closer study of mental dynamics and chemico-cerebral pathology. Morbid mental phenomena, incomprehensible to the physiologist, and inscrutable to the pathologist, may be intimately dependent upon minute changes (out of the range of the microscope) in the organic chemical constitution of brain matter affecting not only the quantity and quality, but distribution of the nerve and

* "Lectures on Surgical Pathology." By J. Paget, Esq., F.R.S. Vol. i. p. 52.

psychical force, not, in the existing state of our knowledge of physiological and dynamical science, susceptible of demonstration.*

* Much has been said by phrenological authorities, as well as physiological writers, disposed to favour, to some extent, the theory of Gall and Spurzheim, as to the relation between the *volume* of the brain and the *degree* of psychical power manifested. A few of the opponents of phrenology have rather overstepped the bounds of prudence by attempting, in their mistaken zeal, to establish as a first principle that there is no clearly established *organic* connexion between the brain and mind,—that as far as the intellect is concerned we could have done as well without as with a brain :—

> "Quis furor iste novus ; quo nunc, quo tenditis ? inquam
> Heu miseri cives !"

I am astonished to find an acute and profound thinker like the late Sir W. Hamilton countenancing this extreme view of an important dynamical and physiological question. He observes—"There is no good ground to suppose that the mind is situate solely in the brain, or exclusively in any one part of the body. On the contrary, the supposition that is really present wherever we are conscious that it acts—in a word, the Peripatetic aphorism, the soul is all in the whole and all in every part—is more philosophical, and consequently more probable than any other opinion. It has not been always noticed, even by those who deem themselves the chosen champions of the immateriality of mind, that we materialise mind when we attribute to it the relations of matter. Thus, we cannot attribute a local seat to the soul without clothing it with the properties of extension and place, and those who suppose this seat to be but a point only aggravate the difficulty. Admitting the spirituality of mind, all that we know of the relation of soul and body is, that the former is connected with the latter in a way of which we are wholly ignorant; and that it holds relations, different both in degree and kind, with different parts of the organism. We have no right, however, to say that it is limited to any one part of the organism ; for even if we admit that the nervous system is the part to which it is proximately united, still the nervous system is itself universally ramified throughout the body ; and we have no more right to deny that the mind feels at the finger-points, as consciousness assures us, than to assert that it thinks exclusively in the brain. The sum of our knowledge of the connexion of mind and body is therefore this—that the mental modifications are dependent on certain corporeal conditions ; but of the nature of these conditions we know nothing. For example, we know by experience that the mind perceives only through certain organs of sense, and that, through these different

A vast and unexplored region of scientific inquiry is open to the zealous philosopher who investigates in his laboratory the subject of chemico-cerebral pathology. Much untrodden ground exists in association with this deeply interesting and neglected subject. Any attempt to unravel, by the aid of chemical science, psychical and nervous phenomena so abstruse, may prove for a time unproductive of any practical results; nevertheless, great advantages would accrue from such a course of philosophical inquiry. Lord Bacon, when referring to the persevering efforts of the ancient alchemists to discover the philosopher's stone, remarks, that although they did not succeed in obtaining the immediate object of their search, much good resulted from their investigations. They did not, it is true, succeed in discovering the philosopher's stone, but they accomplished by their labours what might be considered almost tantamount to it in value. By their persevering attempts to find the hidden treasure they turned up and pulverised the soil, to use the Baconian image, thus rendering it better fitted for the purposes of vegetation.

There are *three* recognised *latent* mental impressions. 1. Where the greater part of our spiritual treasures lies beyond the sphere of consciousness, and hidden in the obscure recesses of the mind. 2. When the mind contains certain systems of knowledge or certain habits of action which it is wholly unconscious of possessing in its ordinary state, but which are revealed to consciousness in certain extraordinary exaltations of its powers. 3. Consists in ordinary mental modifications, *i.e.*, mental activities of which we are unconscious, but which manifest existence by effects of which we

organs, it perceives in a different manner. But whether the senses be instruments, whether they be media, or whether they be only partial outlets to the mind incarcerated in the body—on all this we can only theorise and conjecture."—*Lectures on Metaphysics*, vol. ii. p. 127.

are conscious. This last appears a somewhat ambiguous proposition, for, as Sir W. Hamilton asks, "How can we know that to exist which lies beyond the one condition of all knowledge—consciousness? how can knowledge arise out of ignorance, consciousness out of unconsciousness—the cognisable out of the incognisable?—*i.e.*, how can one opposite proceed out of another?" There are many things, this distinguished metaphysician argues, which we neither know nor can know in themselves—that is, in their direct and immediate relation to our faculties of knowledge, but which manifest themselves through the medium of their effects. Consciousness cannot exist independently of some peculiar modification of the mind; we are only conscious as we are conscious of a determinate state. To be conscious we must be conscious of some particular perception, remembrance, imagination, or feeling. We have no general consciousness. As consciousness supposes a special mental modification as its object, it may be remembered that this modification or state supposes a change—a transition from some other state or modification. But as the modification must be present before we have a consciousness of the modification, it is evident that we can have no consciousness of its rise or awakening, for its rise and awakening is also the rise or awakening of consciousness. Sir W. Hamilton cites the following illustration of such subtle mental phenomena. He illustrates his position in the following manner:—When we look at a distant forest we perceive a certain expanse of green. Of this as an affection of our orgasm, we are clearly and distinctly conscious. The expanse of which we are conscious is evidently made up of parts of which we are not conscious. No leaf, perhaps no tree, may be separately visible. But the greenness of the forest is made up of the greenness of the leaves; that is, the total impression of which we are conscious is made

up of an infinitude of which we are not conscious. When we hear the distant murmur of the sea, what are, says Sir W. Hamilton, "the constituents of the total perception of which we are conscious? This murmur is a sum made up of parts, and the sum would be zero if the parts did not count as something."*

* Latent *psychical* are certainly not more singular and inexplicable than latent *physical* phenomena. The subjoined interesting facts relative to *light* illustrate the matter in question:—"M. Niepce de Saint-Victor has been pursuing with much diligence his investigations into the influence of solar light on organic and inorganic bodies. An extensive series of experiments has been communicated by M. Chevreul to the Académie des Sciences. Many of these experiments were merely confirmatory of his former results, or tended to show that the property of absorbing the solar rays and giving them out again in darkness was common to a very large number of dissimilar bodies. It will be remembered by many of our readers, that M. Niepce, in a former communication, stated that a tube of paper or metal, white on the inside, being exposed directly opposite the sun for an hour, absorbed a large quantity of light, which could, by closing the end of the tube, be preserved and employed at some future time in producing a photographic copy of a picture on tissue paper upon a piece of chemically-prepared paper placed to receive it. That, indeed, the solar radiations could be bottled up for a future day. M. Niepce has since proved that if a cylinder of white card-board, which has been exposed to sunshine, be carefully closed up in a tin case, 'it is active *six* months after its insulation,' and if there is placed at the end of the tube a transparent print and then a piece of photographic paper, the radiations from the inside of the tube will act precisely as if the arrangement had been exposed to the solar rays. After these absorbed radiations have once effected the decomposition of any of the salts of gold or silver, they are powerless; that is, they are expended in producing this change. M. Niepce has been carrying his investigations yet farther, and he has approached the confines of that territory between physics and physiology which has hitherto been but a bewildering problem. Earth—agricultural soil—has been taken from a considerable depth and spread upon a plate in darkness, a piece of paper covered with chloride of silver has been placed above it and no effect has been produced. The same soil has been exposed to sunshine—one half of it being covered by an opaque screen. It has then been taken into a dark room and a piece of similar photographic paper placed as in the former experiment. All that part of the paper over the soil which had been exposed was darkened, but that portion which had been covered produced no effect. Here we have evidence of

The theory of the persistent and indestructible character of psychical impressions is countenanced (I will not say established) by phenomena observed during various abnormal mental and disordered cerebral conditions. I refer—

1. *To the state of the intellect as manifested in certain forms of asphyxia, caused by drowning and hanging.*
2. *To the condition of the mind as exhibited previously to death.*
3. *To morbid mental phenomena observed to result from injuries inflicted upon the brain, or to follow particular types of encephalic disease.*

It has occurred that persons in the act of drowning (during the asphyxia caused by the circulation of venous instead of arterial blood in the brain, consequent upon the suspension of respiration) have had presented to their minds, whilst struggling with death, a series of striking tableaux of the most minute and remarkable occurrences of their past lives. Events associated with the period of childhood have been, under these circumstances, recalled to the mind, and presented to it like so many exquisitely-executed photographic portraits. These phenomena have occurred not exclusively during the act of drowning, and at the moment of dissolution, but in analogous conditions of morbid and asphyxiated brain.*

the absorption of the solar rays by the surface soil, and of the continuation in obscurity of that action which has been commenced under the influence of sunshine. The researches of M. Niepce de Saint-Victor confirm in a remarkable manner the views entertained by his uncle, M. Niéphoré Niepce, who, in December 1829, wrote thus :—'Light, in its state of composition and decomposition, acts chemically upon bodies. It is absorbed, *it combines with them, and communicates to them new properties.*' We shall anxiously wait the extension of these researches upon vital organisms, in the direction indicated by M. Chevreul."—*Athenæum*, January 8, 1859.

* Müller says:—"We know that every idea is a permanent, immutable

"I was once told by a near relative, that having in her childhood fallen into a river, and being on the very verge of death but for the critical assistance which reached her, she saw in a *moment* her whole life, in its minutest incidents, reflected before her as in a mirror."*

The late Professor Clarke of Cambridge thus describes his state of mind when in the act of being drowned:—"After being immersed in the water," he says, "I saw my danger, but thought the mare would swim, and I knew I could ride when we were overwhelmed. It appeared to me that I had gone to the bottom with my eyes open. At first I thought I saw the bottom clearly, and then felt neither apprehension nor pain; on the contrary, I felt as if I had been in the most delightful situation. My mind was tranquil and uncommonly happy. I felt as if in Paradise, and yet I do not recollect that I saw any person; the impression of happiness seemed not to be derived from anything around me, but from the state of my mind. And yet I had a general apprehension of pleasing objects; and I cannot recollect that anything appeared defined, nor did my eye take in any object, only I had a general impression of a green colour, as of fields or gardens. But my happiness did not appear to arise from these, but appeared to consist merely in the tranquil, indescribably tranquil state of mind. By-and-by I seemed to awake as out of slumber, and felt unutterable pain and difficulty of breathing; and now I found I had been carried by a strong wave, and left in very shallow water on the shore; and the pain I felt was occa-

impression in the brain, which may at any moment present itself anew if the mind be directed to it—if the 'attention' be turned to it—and that it is merely the impossibility of the attention being occupied by many objects simultaneously that causes each to be forgotten. All these latent ideas must be regarded as impressions on the brain which cannot be effaced. Lesions of the brain may annul a part or all of these ideas."

* "Confessions of an English Opium-Eater," by De Quincey.

sioned by the air once more inflating my lungs and producing respiration. How long I had been under water I cannot tell; it may, however, be guessed at by the circumstance that when restored to the power of reflection, I looked at the mare, and saw her walking leisurely down towards home, then about half a mile distant from the place where we were submerged."

Sir Francis Beaufort, in a letter published in the Autobiography of Sir John Barrow, gives an account of his sensations when in the act of being drowned. He says—"Every incident of his former life seemed to glance across his recollection in a retrograde succession, not in mere outline, but the picture being filled with every minute and collateral feature," forming "a kind of panoramic picture of his entire existence, each act of it accompanied by a sense of right and wrong."

The Bishop of Oxford related, some years ago, in a sermon which he preached in St James's Church, Piccadilly, the following incident:—An acquaintance of his Lordship's, a man of remarkably clear head, was crossing a railway in the country when an express train at full speed appeared closely approaching him. He had just time to throw himself down in the centre of the road between the two lines of rails, and as the vast train passed over him the sentiment of impending danger to his very existence brought vividly into his recollection every incident of his former life in such an array as that which is suggested by the promised opening of "the great book at the last great day."

The delirium that occasionally accompanies the act of dying is often marked by a singular reference to the minute circumstances of the past life; and aged persons have been heard, like Falstaff, not only to "babble about green fields," but in imagination to converse with, and of the companions

of their youth, and refer to particular events that had occurred in their early childhood.

The mind, under these circumstances, is often busily occupied in the contemplation of pastoral imagery and pleasant early remembrances, associated with the innocent recreations and unmatched beauties of country life. All the unsophisticated aspirations and fond reminiscences of the youthful fancy appear occasionally, at this awful crisis, to gush back to the heart in their original beauty, freshness, and purity.

A young man, who had been but little conversant with any but rural scenery, discoursed most eloquently, a short time before his death, of sylvan glen and bosky dell, purling streams and happy valleys, as if his spirit had been always luxuriating itself in the gardens of Elysium. Shakspeare alludes to this phenomenon in his account of the death of Falstaff in the play of Henry V.

Dr Rush alludes to a patient subject to attacks of recurrent insanity, whose paroxysms were always indicated by her conversing in a kind of Italian *patois*. As the disease advanced, and had reached its culminating point, the lady could only talk in *French*, at the decline of her illness she spoke only *German*, and during the stage of convalescence she addressed those about her in her *native tongue*. This lady, when quite well, rarely spoke any but her own language; and if she attempted to do otherwise, always did so with extreme diffidence and difficulty. During her attack of insanity she spoke with great fluency, never apparently being at a loss for words to convey her ideas. It is said that, with the exception of the Italian, the other languages, German and French, were singularly accurate.

A gentleman, well known both to the learned and political world, who did Sir W. Hamilton the honour to cor-

respond with him upon the subject of his first volume of Metaphysics, says—"That about six-and-twenty years ago, when I was in France, I had an intimacy with the family of the late Maréchal de Montmorenci de Laval. His son, the Comte de Laval, was married to Mademoiselle de Maupeaux, the daughter of a lieutenant-general of that name, and a niece of the late Chancellor. This gentleman was killed at the battle of Hastenbeck; his widow survived him some years, but is since dead.

"The following fact comes from her own mouth. She has told it me repeatedly. She was a woman of perfect veracity and very good sense. She appealed to her servants and family for the truth; nor did she, indeed, seem to be sensible that the matter was so extraordinary as it appeared to me. I wrote it down at the time, and I have the memorandum amongst my papers.

"The Comtesse de Laval had been observed by servants, who sat up with her on account of some indisposition, to talk in her sleep a language that none of them understood; nor were they sure, or indeed herself able to guess, upon the sounds being repeated to her, whether it was or was not gibberish.

"Upon her lying-in of one of her children, she was attended by a nurse who was of the province of Brittany, and who immediately knew the meaning of what she said, it being in the idiom of the natives of that country; but she herself, when awake, did not understand a single syllable of what she had uttered in her sleep upon its being retold to her.

"She was born in that province, and had been nursed in a family where nothing but that language was spoken; so that in her first infancy she had known it and no other; but when she returned to her parents she had no opportunity of keeping up the use of it; and, as I have before

said, she did not understand a word of Breton when awake, though she spoke it in her sleep.

"I need not say that the Comtesse de Laval never said or imagined that she used any words of the Breton idiom more than were necessary to express those ideas that are within the compass of a child's knowledge of objects, &c."*

A gentleman was attacked by hemiplegia at an advanced age. He passed, a few days before his death, into a state of low rambling delirium. He then spoke only in French, a language he had not been known to speak for *thirty* years before. "This continued," says Sir H. Holland, "until utterance ceased altogether to be intelligible."†

The following circumstance occurred in a Roman Catholic town in Germany a year or two before Mr Coleridge arrived at Gottingen. It was at the time a frequent subject of conversation. "A young woman of four or five and twenty, who could neither read nor write, was seized with a nervous fever, during which, according to the asseverations of all the priests and monks of the neighbourhood, she became possessed as it appeared by a very learned devil. She continued incessantly talking Latin, Greek, and Hebrew in very pompous terms, and

* "Ancient Metaphysics," by Lord Monboddo.

† "Mental Pathology."

"It is vain," says Dr Carpenter, "to speculate as to the nature of the change by which sensory impressions are thus registered." He, however, considers that they are in some way dependent upon the *nutrition* of the brain. In cases like those previously cited there can be no doubt, he says, "that some alteration either in the circulation of the blood or in the quality of the fluid was the cause of changes which, operating in the substance of the sensorium, reproduced the former sensations, just as a disturbance of the circulation in the retina occasions the sensation of flashes of light or other visual phenomena."—*Principles of Human Physiology*, p. 358.

with the most distinct enunciation. This possession was rendered more probable by the known fact that she was or had been a heretic. Voltaire humorously advises the devil to decline all acquaintance with medical men, and it would have been more to his reputation if he had taken this advice in the present instance. The case had attracted the particular attention of a young physician, and by his statement many eminent physiologists and psychologists visited the town and cross-examined the case on the spot. Sheets full of her ravings were taken down from her own mouth, and were found to consist of sentences coherent and intelligible each for itself, but with little or no connexion with each other. Of the Hebrew a small portion of the whole could be traced to the Bible, the remainder seemed to be the rabbinical dialect. All trick or conspiracy was out of the question. Not only had the young woman ever been a harmless, simple creature, but she evidently was labouring under a nervous fever. In the town in which she had been resident for many years as a servant in different families no solution presented itself. The young physician, however, determined to trace her past life from step to step, for the patient herself was incapable of returning a rational answer. He at length succeeded in discovering the place where her parents had lived, travelled thither, found them dead; but an uncle surviving, he learned from him that the patient had been charitably taken by an old Protestant pastor at nine years of age, and had remained with him some years, even till the old man's death. Of this pastor the uncle knew nothing, but that he was a very good man. With great difficulty and after much search, our young medical philosopher discovered a niece of the pastor's who had lived with him as his housekeeper, and had inherited his effects. She remembered the girl, related that her vener-

able uncle had been too indulgent, and could not bear to hear the girl scolded; that she was willing to have kept her, but that after her patron's death the girl herself refused to stay. Anxious inquiries were made concerning the pastor's habits, and the solution of the phenomenon was soon obtained. It appeared that it was the old man's custom for years to walk up and down a passage of his house into which the kitchen door opened, and to read to himself with a loud voice out of his favourite books. A considerable number of these were still in the niece's possession. The pastor was a learned man, and a great Hebraic scholar. Among the books were found a collection of rabbinical writings, together with several of the Greek and Latin authors, and the physician succeeded in identifying so many passages with those taken down at the young woman's bedside that no doubt could remain in any rational mind concerning the true origin of the impressions made on her nervous system."

Analogous phenomena are observable in some forms of somnambulism as well as of catalepsy. Sir W. Hamilton quotes a singular illustration from a German book by Abel.* "A young man had a cataleptic attack, in consequence of which a singular change was effected in his mental constitution. Some six minutes after falling asleep he began to speak distinctly, and almost always of the same objects and concatenated events, so that he carried on from night to night the same history, or rather continued to play the same part. On awakening he had no reminiscence whatever of his dreaming thoughts, a circumstance, by the way, which distinguishes this as rather a case of somnambulism than of common dreaming. Be this, however, as it may, he played a double part in his existence. By day he was the poor apprentice of a mer-

* A Collection of Remarkable Phenomena from Human Life.

chant; by night he was a married man, the father of a family, a senator, and in affluent circumstances. If, during his vision, anything were said in regard to his waking state, he declared it unreal and a dream."

But reverting more particularly to the phenomena of memory, I would ask, How are we to explain physiologically the *modus operandi* of attention in fixing certain impressions on the mind. Is the fact referrible to a mechanical or psychical law?

It is deemed of importance that a certain idea or aggregation of ideas should, to use colloquial phrases, be permanently impressed, fixed, or stamped upon the mind; in other words, be susceptible by an effort of the will of being remembered. In ordinary understandings, unless the attention be continuously directed and concentrated upon the subject under consideration, the impression made upon the brain, the material recipient of the mental image is faint and evanescent. If it be necessary to commit any piece of prose or poetry to memory, we repeat it without intermission until we are conscious that a durable effect is made upon the mind. Such continuity and concentration of the attention satisfactorily accounts for the tenacity of certain conceptions, healthy as well as morbid, in which the mind has taken a deep and abiding interest, and explains the fixed character of a particular type of delusive ideas which implicate in their operations the emotions, passions, imagination, as well as reasoning and reflecting faculties.

A circumstance greatly interests and involves the feelings. A loved object dies in a particular room, or is accidentally deprived of life in a certain locality. The attention of the unhappy survivor is painfully alive and vividly concentrated upon all the physical, moral, and emotional associations connected with the severe loss sus-

tained, and an impression is thus made upon the memory which is rarely, if ever, effaced.

Again, the accuracy of the memory is greatly dependent upon the laws regulating the association of ideas.* This faculty is noticed in various conditions of manifestation or states of development, according to educational training, and orginal and connate vigour of mind. In a few understandings it is observed to be altogether absent, in others it operates sluggishly, and in some it is in a most painfully *morbid* and *sensitive* state of activity. The most trifling and insignificant allusion, the faintest reference to a particular subject, in a certain type of healthy as well as of disordered mind, recalls immediately and vividly to the recollection a complicated chain of past conception—

> "Each stamps its image as the other flies,
> Awake but one, and lo, what myriads rise!"†

---

* The faculty of memory, reproduction, or, to use Sir W. Hamilton's phrase, "resuscitation," is considered by metaphysicians to be regulated by the laws which govern the general association of our ideas. Aristotle, who flourished more than 2000 years ago, has left behind him a masterly philosophical analysis of these laws. Thoughts, he maintains, which have once co-existed in the mind are afterwards associated, and never can, except by disease, be disassociated. This is what is termed the law of the "disintegration." In what way, asks Aristotle, does the presence of one thought determine and produce another? All our thoughts are said to have a well-defined relation to each other. The laws governing the association of ideas Aristotle reduces to four—viz., Contiguity in time and space, Resemblance, and Contrariety. "It has been established," says Sir W. Hamilton, "that thoughts are associated; that is, are able to excite each other. 1. If co-existent, or immediately successive in time; 2. If their objects are conterminous or adjoining in space; 3. If they hold the dependence to each other as cause and effect, or of mean and end, or of whole or part; 4. If they stand in a relation either of contrast or of similarity; 5. If they are the operations of the same powers, or of different powers conversant about the same object; 6. If their objects are the sign and the signified; or 7. Even if their objects are accidentally denoted by the same sound.—"Περὶ Μνήμης καὶ Ἀναμνήσεως," by Aristotle.

† Lord Kames refers to this fact, and ascribes this mental condition to

A look, a word carelessly and thoughtlessly spoken; the sight of some trivial object, perhaps token of affection; the melancholy wail of the wind, murmur of the ocean's dash upon the beach, sound of distant village bells floating upon the evening breeze, the strains of a plaintive melody associated with the sad reminiscences of the past, "strike the electric chain" which so mysteriously encircles and binds the mind, suggesting to it a long forgotten succession of agonising, burning, and, it may be, maddening thoughts.

A lady at some distance from town was in the last stage of an incurable disorder. A short time before her death she requested that her youngest child, a girl about four years of age, might be brought to visit her. This was accordingly complied with. The child remained with her about three days. Thirty years afterwards this young lady had occasion to go to the same house. Of her visit when a child she retained no trace of recollection, nor was the name of the village even known to her. When she arrived at the house she had no memory of its exterior, but on entering the room where her mother had been ill and died her eye anxiously traversed the apartment, and she said—"I have been here before; the prospect from this window is quite familiar to me, and I remember that in this part of the room there was a bed, and a sick lady who kissed me and wept." On minute inquiry, none of these circumstances had ever occurred during the previous thirty years to her recollection, and in all probability they never would have been revived had she not revisited the locality.

Are the ideas conveyed to the mind productive at the

a "bluntness of the discerning faculty." He says—"A person who cannot accurately distinguish between a slight connexion and one that is more intimate is equally affected by each; such a person must necessarily have a great flow of ideas, because they are introduced by any relation indifferently; and the slighter relations being without number, furnish ideas without end."

time of their reception of a molecular change in the physical tissue of the brain, and are the impressions made on the material instrument of thought, subsequently by an effort of the will revived and made objects of consciousness, by the application of a specific kind and degree of stimulus, physical, mental, objective or subjective, applied to the special cerebral registering-ganglia upon which the mental pictures are supposed to be impinged or traced?

Dr Draper has recorded some ingenious experiments with reference to impressions made upon *material* substances cognisable to sense. Do they throw any light upon the *physical* or *psychical* phenomena of memory?*

"If on a cold polished piece of metal any object, as a wafer, is laid, and the metal then be breathed upon, and when the moisture has had time to disappear, the wafer be thrown off, though now upon the polished surface the most critical inspection can discover no trace of any form, if we breathe upon it a spectral figure of the wafer comes into view, and this may be repeated again and again. Nay, even more,—if the polished metal be carefully put aside where nothing can deteriorate its surface, and be so kept for many months, even for a year, on breathing again upon it, the shadowy form emerges; or if a sheet of paper, on which a key or other object is laid, be carried for a few moments into the sunshine, and then instantaneously viewed in the dark, the key being simultaneously removed, a fading spectre of the key on the paper will be seen; and if the paper be put away where nothing can disturb it, and so kept for many months, at the end thereof, if it be carried into a dark place and laid on a piece of hot metal, the spectre of the key will come forth. In the cases of bodies more highly phosphorescent than paper, the spectres of

* "Human Physiology, Statical and Dynamical." By John W. Draper, M.D P. 288. New York, 1856.

many different objects which may have been in succession laid originally thereupon, will, on warming, emerge in their proper order. These illustrations show how trivial are the physical impressions which may be thus registered and preserved. A shadow is said never to fall upon a wall without leaving thereupon its permanent trace, a trace which might be made visible by resorting to proper processes. All kinds of photographic drawing are, in their degree, examples of this kind. Of the moral consequences of these phenomena it is not my object here to speak. The world would be none the worse if every secret action might thus be made plain. But if on such inorganic surfaces impressions may in this way be preserved, how much more likely is it that the same thing occurs in the purposely-constituted ganglion. Not that there is any necessary coincidence between an external form and its ganglionic impression, any more than there is between the letters of a message delivered in a telegraphic office and the signals which the telegraph gives to the distant station, yet these signals are easily retranslated into the original words—no more than there is between the letters of a printed page and the acts or scenes they may chance to describe; but those letters call up with clearness in the mind of the reader the events and scenes. Indeed, the quickness with which the mind interprets such traces or impressions in its registering ganglia is illustrated by the rapidity with which we gather the sense it contains, or as a skilful accountant runs his eye over a long column of figures, and seems to come by intuition at once to the correct sum. The capability which we thus possess of determining a final perception or judgment of results without dwelling on the intermediate traces or steps, is also illustrated by our appreciation of music without concentrating our thoughts on the time and intensities of vibration or interferences of

the notes, though these mathematical relations are at the very bottom of the harmony; and conspicuously does the Supreme Intelligence, God, reach with unerring truth to every final result without any necessary concern in the intermediate steps.

"From the preceding considerations we may infer that there is a necessary limitation of the amount of impressions capable of being registered in the organism, and therefore, in this regard, all human knowledge is finite. Yet its term is much farther off than might at first sight appear. A library of a given size may only be able to contain a given number of books upon its shelves, but the amount of information it is capable of containing may be made to vary with the condensation and perspicuity of the books."

In many cases of want of sequence in the ideas, or defective continuity of thought, the cerebral nerve-channels, considered to be the media for the transmission of impressions to and from the brain, are either impervious to their free passage, or there exists a loss of *efferent* conducting power in the central nerve-fibres, arising (most probably) from some subtle and as yet unexplained *mal-nutrition*, morbid change in the molecular portion of their tissue, abnormal condition of what is termed the *polarity* of the nerve-force, or alteration in the *chemical* constitution of brain-matter not yet discovered in the laboratory, and at present inexplicable to the physiologist and pathologist.

Comparing the aggregations of grey matter on the hemispherical surface of the brain to a galvanic battery placed at the extremity of or in connexion with a number of *electric* wires (the white or medullary cerebral matter), we can easily understand if any of these should become deranged and not be in a healthy condition, or the *battery* (the brain) itself be out of order, that the ideas cannot be

freely transmitted (in consequence of a breach of continuity in the channels of communication, conducting or *efferent* nerve-tubes) in obedience to the mandates of volition, originating in the primary *dynamical* centre of the *cineritious* portion of the cerebral mass, or that the impressions made by the feeble (*disordered?*) efforts of the mind upon the motor and sensory powers may be faint, confused, or altogether unintelligible.*

* An attempt has been made by carefully-executed experiments to estimate the rapidity with which the electric current passes along the nerve-tubes. M. Helmholtz has, by means of an ingenious and delicately-constructed galvanic apparatus, ascertained that in a nerve of 50 to 60 millimetres length, the time required for the transmission of nerve-force was from 0·0014 to 0·0020 of a second.—*Comptes Rendus*, vol. xxx., 1850, art. "Sur la Vitesse de Propagation de l'Agent dans les Nerfs Rachidiens."

"If mental action be electric, the proverbial quickness of thought—that is, the quickness of the transmission of sensation and will—may be presumed to have been brought to an exact measurement. The speed of light has long been known to be about 192,000 miles per second, and the experiments of Wheatstone have shown that the electric agent travels (if I may so speak) at the same rate; thus showing a likelihood that one law rules the movements of all the 'imponderable bodies,' Mental action may accordingly be presumed to have a rapidity equal to 192,000 miles in a second, a rate far beyond what is necessary to make the design and execution of any of our ordinary muscular movements apparently identical in point of time, which they are.—*The Vestiges of the Natural History of Creation*," p. 342.

"The method of transforming the valuation of time into space by the rapid rotation of a cylinder rotating 1000 times in a second, proposed by M. Fizeau, has been applied by M. Helmholtz to the measurement of the rapidity of nervous impulse. In this way it has been found, by experiments made with the utmost care—1. That sensations are transmitted to the brain with a rapidity of about 180 *feet per second*, or at one-fifth the rate of sound, and this is nearly the same in all individuals; 2. The brain requires *one-tenth of a second* to transmit its orders to the nerves which preside over voluntary motion; but this amount varies much in different individuals, and in the same individual at different times, according to the disposition or the condition at the time, and is more regular the more sustained the attention; 3. The time required to transmit an order to the muscles by the motor nerves is nearly the same as that required by the nerves of sensation to pass a sensation; moreover, it passes nearly one-

Can we explain by any other hypothesis the singular anomalies in the operations of the mind to which I am about to refer?

A man loses all knowledge of a language acquired in early youth in consequence of a severe blow upon the head, the effect of a serious derangement of the cerebral circulation, alteration in the molecular structure of the brain, associated with an attack of fever, or the effect of paralysis, or apoplexy. He recovers from the illness, but with an entire forgetfulness of a language with which he was previously familiar. He is advised, when restored to health, to re-learn it. He commences with the grammar, and makes an attempt to acquire the rudiments of the lost tongue. Whilst so doing, he painfully realises the mortifying fact that all recollection of what he had formerly so well known and highly valued is entirely obliterated from his memory. He endeavours to translate some elementary classical work, and during a determined effort to resuscitate his dormant and, to all appearance, lost ideas, and revive former impressions by attempting to construe a difficult Latin sentence, he is conscious of a physical change taking place in the brain.

"Quick as Ithuriel's spear,"

all his critical knowledge of the apparently forgotten language rushes back to his mind. This illustration is *not* an hypothetical one. The following is an analogous case:—

Rev. J. E——, a clergyman of rare talent and energy, of sound education, while riding through his mountainous parish, was thrown violently from his carriage, and received a violent concussion of the brain. For several days he

hundredth of a second before the muscles are put in motion; 4. The whole requires one and a quarter of two-tenths of a second; consequently when we speak of an active, ardent mind, or of one that is slow, cold, or apathetic, it is not a mere figure of rhetoric."—*M. Ule*, "Revue Suisse."

remained utterly unconscious, and at length, when restored his intellect was observed to be in a state like that of a naturally intelligent child, or like that of Caspar Hauser after his long sequestration. The good man again, but now in middle life, commenced his English and classical studies under tutors, and was progressing very satisfactorily, when, after several months' successful study, the rich storehouses of memory were gradually unlocked, so that in a few weeks his mind resumed all its wonted vigour, and its former wealth and polish of culture. For several years he has continued his labours as a pastor, and has suffered no symptom of cerebral disturbance. The first evidence of the restoration of this gentleman's memory was experienced whilst attempting the mastery of an abstruse Greek author, an intellectual effort well adapted to test the penetrability of that veil that so long had excluded from the mind the light and riches of its former hard-earned possessions.

A gentleman, about thirty years of age, of learning and acquirements, at the termination of a severe illness, was found to have lost the recollection of everything, even the names of the most common objects. His health being restored, he began to re-acquire knowledge like a child. After learning the names of objects, he was taught to read, and after this, began to learn Latin. He made considerable progress, when, one day in reading his lesson with his brother, who was his teacher, he suddenly stopped, and put his hand to his head. Being asked why he did so, he replied—"I feel a peculiar sensation in my head; and now it appears to me that I knew all this before." From that time he rapidly recovered his faculties. A state of the mind somewhat analogous occasionally occurs in diseases arising from simple exhaustion. Many years ago Dr Abercrombie attended a lady who, from a severe and neglected diarrhœa,

was reduced to a state of great weakness, followed by a remarkable failure of memory. She had lost the recollection of a particular epoch of her life, extending over the period of about ten or twelve years. She had formerly lived in another city, and the time of which she had lost the recollection was that during which she had lived in Edinburgh. Her ideas were consistent with each other, but they referred to things as they stood before her removal. She recovered her health after a considerable time, but remained in a state of imbecility resembling the dotage of old age.

It is a well-established fact that idiocy, apparently irremediable, connate imbecility, has been cured by a blow upon the head. "*Omnia exeunt in mysterium,*" exclaims an old schoolman. Who can fathom the depths, unravel the intricate labyrinths, and penetrate into the arcana of the nervous system ?

A child up to the age of thirteen was idiotic, evidencing either a total deficiency of intelligence or a stunted intellect of the lowest grade and order. He fell from a height upon his head and was stunned. He rallied from this state of unconsciousness, and was—"*credat Judæus ?*"—found to be in full possession of his intellectual faculties.

A somewhat similar case is recorded by Louyer-Villermay. A man suffered from a paralysis of memory following a severe blow upon the head. He was fortunate enough (as the result established) to have a repetition of the physical injury, and, as the effect of this accident, his memory was immediately restored to its original strength.* Petrarch records that Pope Clement VI. found his memory wonderfully strengthened after receiving a slight concussion of the brain.

* Dictionnaire des Sciences Médicales, vol. xxxii. p. 321.

"I have been informed," says Dr Prichard, "on good authority, that there was some time since a family, consisting of three boys, who were all considered as idiots. One of them received a severe injury of the head; from that time his faculties began to brighten, and he is now a man of good talents, and practises as a barrister. His brothers are still idiotic or imbecile."*

Father Mabillon is said to have been in his younger days an idiot, continuing in this condition until the age of twenty-six. He then fell with his head against a stone staircase and fractured his skull. He was trepanned. After recovering from the effects of the operation and injury his intellect fully developed itself. He is said to have exhibited subsequently to the accident and operation "a mind endowed with a lively imagination, an amazing memory, and a zeal for study rarely equalled."

Mrs M., aged twenty-six, ten days after confinement, resumed her usual household labours, and being a feeble

* "Treatise on Diseases of the Nervous System," by J. C. Prichard, M.D., 1822. These and other analogous and inexplicable facts illustrative of the singular vagaries and wonderful eccentricities of the nervous system, are apparently incapable of satisfactory physiological explanation; but, because we cannot understand the nature of the phenomena, are we to discredit, disbelieve, and put them aside, on the ground that they are not susceptible of mathematical demonstration and a satisfactory psychological solution? If so, how much valuable knowledge must we entirely ignore. John Newton, was once told by a zealous Unitarian (proceeding on the principle that we are not required to believe what we cannot prove, understand, and explain) that he had carefully read the New Testament, but could find no proof there of the doctrine of the Trinity. Newton knew with whom he was talking, and answered by saying, "Do you know what happened to me last night?" "Well." replied his opponent, "what?" "Why," said Newton, "when I was going to my bedroom, I wondered what ailed my candle that I could not light it, and on examination I found that *I had been attempting to do so with the extinguisher on!*" Is it not better to believe too much than too little, on the principle that "a man may breathe [according to Dr Johnson] in foul air who would die in an exhausted receiver."

woman and of an irritable, nervous temperament, she had the misfortune to have an attack of acute puerperal mania. She was not often violent, but being constantly tormented with the most terrific panophobia, she frequently made vigorous attempts to escape from her countless imaginary adversaries. This state of things continued for one week, when she leaped from a window of her apartment in the second story upon the pavement below. This act she repeated on several successive days, and on each occasion she was immediately secured and quieted in her room. Again she repeated her efforts to escape; she leaped into the street, ran several blocks, entered a large warehouse, ascended to the third story, and fancying herself still hotly pursued by her foes, she leaped from a small ventilating aperture, through which she could scarcely press her way, and the narrowness of which served to break her leap, and caused her partly to fall upon a low shed beneath. She was severely stunned by the force of the fall—says that she "saw stars and felt very dizzy;" she was for a few moments insensible, but in a short time became perfectly conscious, and returned to her home restored to her right mind.

It was immediately after this daring flight that Dr Harris first saw this patient. He found her much exhausted, timorous, but not particularly excitable; the countenance was placid, and the expression of the eye full of life. She expressed great joy and devout gratitude for her safe escape from the great perils of her frenzied flight and leaps, as well as for her delivery from the dreadful panophobia which had driven her to such heroic daring. Her restoration to health was speedy and complete, and there has been no recurrence of any symptom of mental aberration.*

* Dr Elisha Harris in "New York Journal of Medicine" for Sept. 1854.

Do not the previous illustrations establish—1. *To what degree the mental operations are under the dominion and control of the nervous matter of the brain;* 2. *How trifling, in some cases, is the* PHYSICAL *obstruction that interferes with the healthy* ACTION OF THOUGHT; *and* 3. *How fine and fragile is the line that separates the* SANE *from the* INSANE *man, the babbling, drivelling* IDIOT, *from the man of transcendent* GENIUS.

> "Great wit to madness nearly is allied,
> And THIN PARTITIONS do their bounds divide."

What is the solution of the preceding phenomena? Have the blows upon the head suddenly removed a *mechanical* entanglement or derangement of the molecular portion of the brain structure, thus dislodging any obstructions that may have existed in the *afferent* and *efferent* nerve-tubes interfering with the free and unfettered *current* of psychical, sensory, and motor force, as well as with the reception of *peripheral* and transmission of *mental* impressions?

Analogous, singular, inexplicable, psychical phenomena, are observed in affections of the brain associated with insanity. A man is seized with mental derangement whilst engaged in some manual employment, or when occupied in the contemplation of a particular idea or class of ideas. He recovers, and contemporaneously with his restoration to mental health, the mind recurs immediately to the train of thought or business in which it was engaged when seized with insanity, all notion of *duration* being annihilated, the interval between the first moment of seizure and the restoration of reason appearing like a blank, or similar to a troubled and distressing dream.

A lady was seized with a fit of apoplexy whilst playing whist. The attack took place on Thursday evening; she continued in a state of unconsciousness until Sunday.

Immediately on her recovery she exclaimed, "What is trump?"

Bergmann relates the case of a man aged ninety, who became insane when he was eighteen, and was always under an impression that he continued of a juvenile age.

I attended a lady who was reduced by pernicious physical habits to a sad state of apparently hopeless and incurable imbecility. She exhibited little or no evidence of intelligence, was incapable of any degree of rational conversation, and manifested other symptoms of insanity. This patient having been placed under strict supervision for some time, gradually recovered her intelligence. The first symptom of a return of reason was her going to her work-box, and taking out a piece of work in which she was engaged twelve months previously, at which time it was supposed her mind had first shown symptoms of derangement.

Phenomena of a somewhat analogous kind are observed in connexion with conditions of sleep and temporary states of morbid unconsciousness resulting from injuries of the head.

A person of the name of Samuel Chilton, a labourer, of Timsbury, near Bath, in the year 1696, is said to have slept for *seventeen* continuous weeks, from the 9th of April to the 7th of August. Life was sustained by the daily exhibition of small quantities of wine. When he awoke he dressed himself and walked about the room, being, as the narrator observes, "perfectly unconscious that he had slept more than *one* night. Nothing could make him believe that he had been asleep for so lengthened a period, until, upon going into the fields, he saw crops of barley and oats ready for the sickle, which he remembered were only sown when he last visited them."*

It is recorded of a British captain at the battle of the

* Fraser's Magazine.

Nile, that he was giving an order from the quarter-deck of his vessel, when a shot struck him on the head, depriving him immediately of speech. As he survived the injury, he was taken home, and remained deprived of sense and speech, in Greenwich Hospital for *fifteen* months. At the end of that period, during which he is said to have manifested no sign of intelligence, an operation was performed on the head which almost instantaneously restored him to consciousness. He then immediately rose from his bed, and not recognising where he was or what had occurred, expressed a desire to complete the order which had been so abruptly interrupted when he received his injury during the battle *fifteen* months previously.

A farmer, of fair character, who resided in an interior town in New England, sold his farm, with an intention of purchasing another in a different town. His mind was naturally of a melancholy cast. Shortly after the sale of his farm, he was induced to believe that he had sold it for less than its value. This persuasion brought on dissatisfaction, and eventually a considerable degree of melancholy. In this situation one of his neighbours engaged him to enclose a piece of land with a post-and-rail fence, which he was to commence making the next day. At the time appointed he went into the field, and began, with a beetle and wedges, to split the timber out of which the posts and rails were to be prepared. On finishing this day's work he put his beetle and wedges into a hollow tree and went home. Two of his sons had been at work through the day in a distant part of the same field. On his return, he directed them to get up early the next morning to assist him in making the fence. In the course of the evening he became delirious, and continued in this situation several years, when his mental powers were suddenly restored. The first question he asked, after the return of his reason, was,

whether his sons had brought in the beetle and wedges? He appeared to be wholly unconscious of the time that had elapsed from the commencement of his delirium. His sons, apprehensive that any explanation might induce a return of his disease, simply replied that they had been unable to find them. He then immediately arose from his bed, went into the field where he had been at work a number of years before, and found the wedges and the rings of the beetle where he had left them, the beetle itself having mouldered away. During this delirium his mind had not been occupied with those subjects with which it was conversant in health.*

Mrs S., an intelligent lady, belonging to a respectable family in the State of New York, some years back undertook a piece of fine needlework. She devoted her time to it almost unceasingly for a number of days. Before she had completed it she became suddenly insane. In this state, without experiencing any material abatement of her disease, she continued for about *seven* years, when her reason was suddenly restored. One of the first questions which she asked after her sanity was restored related to her needlework. It is a remarkable fact that during the long continuance of her mental aberration she said nothing, so far as was recollected, about her needlework, nor concerning any of the subjects that usually occupied her mind when in health.

In the Transactions of the French Academy of Sciences for 1719 there is published a statement illustrative of the subject under consideration. It is as follows :—

"A nobleman residing at Lausanne, whilst giving orders to a servant, suddenly lost his speech and senses. Various modes of treatment were adopted to restore his intellect to a sound state, but for a very considerable time without

* Dr Prichard on "The Diseases of the Nervous System."

effect. For *six* months he appeared to be in a deep sleep, apparently unconscious of everything. At the end of that period a surgical operation was decided upon and performed. The effect was to restore him to the use of consciousness and speech. When he recovered, the servant to whom he had been giving orders, upon entering the room, was asked by him if he had done what he was requested to do at the commencement of his illness, not being aware that any interval, except perhaps a very short one, had elapsed during his attack."*

A girl aged six years, while indulging in a game with her playmates tossing and catching playthings on the pavement, failed to notice something that was thrown to her, and while hurriedly seeking for and inquiring about it, made a false step and fell upon the pavement. The cerebral concussion appeared to have been violent, and she was watched with much anxiety for about ten hours after the accident. She then for the first time opened her eyes and manifested signs of consciousness. She afterwards immediately jumped to the edge of her bed, exclaiming, "Where is it? Where did you throw it?" And immediately commenced throwing little articles from her dress, exclaiming, "Catch these." By these acts she was manifestly continuing those physical operations and the train of thought which had been so suddenly arrested by her fall. No marked vascular reaction occurred in this case; the pupil was very much contracted during the first six hours of the period of concussion, the pulse soft and hurried; she vomited much, but did not open her eyes at any time until the moment of her sudden restoration to consciousness. Her recovery was perfect from that moment. The following cases, though differing in their

* The Academy received this statement from Crousaz, mathematical professor at Lausanne, and author of a Treatise on Logic, &c.

termination, illustrate the same power of the brain to retain impressions after consciousness is arrested :—

A clergyman was one wintry day employed in snipe-shooting with a friend. In the course of their perambulations a high hedge intervened between the companions. The friend fired at a bird which sprang unexpectedly up, and lodged a part of the shot in the forehead of the clergyman. He instantly fell, and did not recover the shock for some days so as to be deemed out of danger. When he was so, it was perceived that he was mentally deranged. He was to have been married two days subsequently to that on which the accident happened. From this peculiar combination of circumstances the phenomena of the case appeared to arise, for all sanity of mind seemed to make a full stop, as it were, at this spot of the current, and he soon sank into a state of inoffensive lunacy. All his conversation was literally confined to the business of the wedding. Out of this circle his mind never deviated. He dwelt upon everything relating to it with minuteness, never retreating or advancing one step further for *fifty* years, being, ideally, still a young, active, expecting, and happy bridegroom, chiding the tardiness of time, although it brought him, at the age of eighty, gently to his grave. He was never known to complain of heat or cold, although his windows were open all the year round.*

A gentleman, on the point of marriage, left his intended bride for a short time. He usually travelled in the stage-coach to the place of her abode. The last journey he took from her was the last of his life. Anxiously expecting

* Gall saw, in an asylum at Vienna, a lunatic whose insanity had reduced him to a state of almost complete idiocy. His only occupation was that of counting, but he never could count to one hundred. At the figure ninety-nine he invariably stopped. Gall tried frequently to induce him to say *one hundred*, but it was useless; he always began again to count from the figure one.

his return, she went to meet the vehicle. An old friend announced to her the death of her lover. She uttered an involuntary scream and piteous exclamation, "He is dead!" From that fatal moment, for *fifty years*, did this unfortunate female daily, in all seasons, traverse the distance of many miles to the spot where she expected her future husband to alight from the coach, uttering in a plaintive tone, "He is not come yet—I will return to-morrow."*

Garrick's *King Lear* is said to have been this great tragedian's masterpiece. His delineation of the acute mental sufferings of the unhappy monarch, consequent upon a recognition of his daughter's ingratitude, is recorded as one of the most terrible and natural pieces of acting ever witnessed upon the stage. Garrick admitted that he owed his success in Lear to the following fact:—

A worthy man, whilst playing with his only child at an open window, accidentally let it fall upon the pavement beneath. The poor father remained at the window, screaming with agony, until the neighbours delivered the child into his arms a corpse. He instantly became insane, and from that moment never recovered his understanding. He passed the remainder of his long and wretched life in going to the window and there playing in fancy with his child, then appearing to drop it, immediately burst into a flood of tears, and for a while filling the house with his wild and unearthly shrieks. He then became calm, sat down in a state of profound gloom, his eyes fixed for a long time on one object, and his mind intensely absorbed in the contemplation of a fearful image. Garrick was often present at this heartrending scene of misery, and "thus it was," he said, "I learned to imitate madness."

A young gentleman having L.10,000 undisposed of and unemployed, placed it for business purposes in the hands

* This case is related in the "Monthly Mirror" for August 1799.

of his confidential broker, This sum he invested in a stock that had an unexpected, sudden, and enormous rise in value. In a fortunate moment he sold out, and the L.10,000 realised L.60,000. An account of the successful monetary speculation was transmitted to the fortunate owner of this large sum. The startling intelligence produced a severe shock to the nervous system, and the mind lost its equilibrium. The poor fellow continued in a state of mental alienation for the remainder of his life. His constant occupation, until the day of his death, was playing with his fingers, and continually repeating without intermission, and with great animation and rapidity, the words, "Sixty thousand! sixty thousand! sixty thousand!" His mind was wholly absorbed in the one idea, and at this point the intelligence was arrested and came to a full stop.

CHAPTER XVIII.

MORBID PHENOMENA OF MOTION.

THIS function of the cerebro-spinal system may be

α. *Impaired*
β. *Lost.*
γ. *Exalted.*
δ. *Perverted.*

Under the head of impairment will be considered subtle and insidious cases of paralysis which are preceded by deficient vital force, succeeded by an enfeebled state of the muscular power. This impairment of motility is often confounded with general physical debility, and attracts no special notice until decided cerebral symptoms appear, or the paralytic affection is quite localised.

In the second division of the subject are grouped those cases of lesion of motion in which the will ceases to exercise an influence over the paralysed limbs, as in hemiplegia and paraplegia. In states of motor exaltation there is a condition of spasm, tonic and clonic, and in perverted conditions of the motility are observed as types of the affection epilepsy, hysteria, catalepsy, tetanus, convulsions, and chorea.

In considering paralytic affections either in their incipient or advanced stage, we recognise the threefold divi-

sion of which the subject is susceptible. These morbid conditions of motility may in their origin be—

α. *Cerebral.*
β. *Spinal.*
γ. *Peripheral.*

In other words, paralysis may commence in the *brain, spinal cord,* or *peripheral* ramifications of the nerves. It may be a *centric* or *eccentric.* How important it is, when investigating practically this subject, to appreciate this *physiological* and *pathological* classification of the lesions of the motor power with a view to accuracy of diagnosis and success of treatment.

Paralysis of spontaneous and voluntary motion arising from the removal of the influence of the *cerebrum* from parts in communication with it, and lesions of motility which result from an arrest of nervous influence from the *spinal marrow* may be thus explained :—In *cerebral* paralysis there is always found augmented irritability ; in *spinal* paralysis the irritability is either diminished or altogether lost.

In cerebral paralysis the irritability of the muscular fibre becomes augmented from want of the application of the stimulus of volition ; in paralysis arising from disease of the spinal marrow and its nerves this irritability is diminished, and at length becomes extinct, from its source being cut off. We may further deduce from these facts that the spinal marrow, and not the cerebrum, is the special source of the power in the nerves of exciting muscular contraction and of the irritability of the muscular fibre ; that the cerebrum is, on the contrary, the exhauster, through its acts of volition, of the muscular irritability.*

General Muscular Debility.—For some period before

* Marshall Hall, M.D.

any positive *lesion* of motility is noticed the patient complains of a *general* failure and loss of muscular power. He is easily tired, is obliged when walking frequently to sit down, complaining of bodily fatigue. This condition of muscular debility is observed to precede for some length of time any local or specific form of paralysis. As the affection of the brain, involving a disordered state of the motor force, advances, the patient's feet slip on one side, and he frequently stumbles whilst walking, as if the ligaments of the ankle-joint were weakened or elongated. He is unable to put his foot or leg forward without an obviously *conscious* effort. Succeeding this general deficiency of muscular power there is occasionally a want of *local* specific motor strength in one of the limbs.

"The patient experiences a greater difficulty in executing forced and limited movements than those in which he merely follows the impulse of his inclinations; he finds it much more laborious to walk slowly with a measured step in a given direction than to let his feet take their own course; rising from the chair or going upstairs is more difficult than sitting down or descending; the next difficult matter is to turn round in walking."*

In the early stage of cerebral disease there exists a weakness in the arms, hands, legs, or in one side of the body. A sudden loss of power in the extremities of one side while walking, so that the patient is compelled to sit down or fall without suffering any loss of consciousness, is an important symptom of softening of the brain. Among the early symptoms of this disease is a slight degree of facial paralysis. Occasionally it affects the eyebrow and the mouth. The patient appears to have lost power over one of the eyelids, as if it were too heavy to be completely raised. One eyebrow is more elevated than the other.

* Romberg.

The mouth is occasionally seen to be drawn on one side. When these symptoms are present, Durand-Fardel says we may almost predict with certainty that softening of the brain is threatening or has already commenced. These apparently slight attacks of paralysis, the same authority observes, are accompanied with an astonished look, or one of stupor, indifference, or idiocy. In some cases objects cannot be grasped or firmly held steadily or comfortably. There is often in these cases an awkwardness in using one or both hands. For some months before an attack of paralysis which ended fatally, there was a loss of power in the right *hand* to such an extent that the patient could not hold his pen when in the act of writing. There was no impairment of sensibility, no affection of the motility in the right *arm*, nor in any other part of the body.

"In cases of incipient paralysis," Andral remarks, "the patients perceive that one of the extremities has less strength than the other; one of the hands can hold objects less strongly than the other; one of the arms appears insensible to them, or the patient's legs drag a little in walking." He continues—and the observation is of great practical significance—"This commencement of paralysis *may remain stationary* FOR A LONG TIME, then it is seen progressively to increase, or else it becomes all at once more considerable."*

Patients so affected are at the commencement of their illness observed frequently to drop things from the hand. This is the first loss of motility noticed for some weeks prior to an apparently sudden and acute attack of apoplexy followed by paralysis.

The loss of motor power in incipient disease of the brain is occasionally confined to *one* of the fingers, this being the only appreciable symptom exciting alarm. A partial affec-

* Andral's "Clinique."

tion of this kind occurs as one of the first threatening symptoms of paralysis and apoplexy.

A paralysis of the powers of *deglutition* is often observed as an incipient symptom of disease of the brain. "I have known a person first lose the strength of his legs, then talk childishly, fiddle with his knife and fork during dinner to the confusion of his family, attempt in vain to direct the morsel to his mouth, and at length carried to bed several hours before he became apoplectic.*

Inability to hold the pen when writing, to handle the razor steadily when shaving (in consequence of defective muscular strength in the fingers), to play the piano with the usual vigour and facility, have been observed among the first warnings of approaching paralysis.

Dr Ulric of Berlin has detailed an exceedingly interesting case illustrative of this incipient stage of paralysis. It is also valuable as pointing out the gradual, insidious, stealthy, and progressive march of cerebral disease when once established. In this particular instance the first symptom of disease of the brain was observed at *eighteen*, the patient dying at the age of *twenty-six*.

The progress of the malady was as follows:—"For *six* years a condition of *muscular sluggishness existed*. This gradually increased. The limbs became heavy, and the motor power began to fail. At the end of six years the *sight* became obscured, and the patient had *diplopia* and *strabismus*. Then followed great difficulty of walking. The gait subsequently became *vacillating*, and the feet appeared *glued* at every step to the ground." Important and significant incipient symptom of paralysis. "The patient then was attacked with a general numbness and paraplegia. He next was subject to cramps affecting the

* "On Nervous Diseases," in 2 vols.; vol. i. "On Apoplexy," &c., by John Cooke, M.D., 1820.

extensor muscles of the great toes. A year afterwards he had tetanic spasms of the muscles of the back, and the paraplegia was converted into paralysis of the upper and lower extremities. The paralysis ultimately became general, deglutition and respiration were impossible, and the patient is said to have died with his intellectual faculties unimpaired." The *post mortem* examination revealed a state of softening of the *pyramidal* and *olivary bodies*, as well as of the left half of the *pons varolii*. The restiform bodies were slightly coloured red.

Muscular Spasm and Tremor.—In the precursory stage of disease of the brain a tremulous state of the muscular fibre is occasionally observed.

In some cases the patient will be heard to complain for some time before an outbreak of paralysis of suffering from a *spasmodic* affection of the muscles of the leg and arm, but particularly of the former. In other instances the legs are stiff, and show a want of suppleness, independently of any loss of sensibility or actual want of muscular power. These symptoms often precede paralytic attacks, but they are generally associated with other characteristic evidences of cerebral mischief. Occasionally the spasm seizes the whole of the leg, which becomes quite *tetanic*. This symptom, observed in the early stages of acute cerebral *irritation*, is connected in some cases, but not always, with organic disease of the nature of inflammatory softening of the brain. A sensation of slight stiffness of the limbs, combined with pain, analogous to that of rheumatism, spasm, and convulsive twitching of the muscles, if accompanied by headache, mental confusion, vertigo, should never escape careful medical observation.

Irregular Muscular Action.—In the second stage of disordered motility the patient exhibits an inequality and unsteadiness in the balance of the muscular system.

There is a want of co-ordination in the motility, a loss of consentaneousness in the motor movements, a disturbance, according to Romberg, either in the antagonism or in the symmetrical muscular balance. This condition of the motor power is analogous to the affection known as *Paralysie croisée.*

The patient in walking always crosses one leg over the other. He places the right foot invariably before the left, and the latter again before the right; in doing this the front of the foot is turned inwards, the individual generally stepping upon his toes, and but rarely upon the external margin of the entire sole; the large toe of one foot strikes against the tendo Achillis of the other.

Romberg describes with great accuracy these affections of motility when discussing the incipient signs of brain disease. He says—"The gait becomes tottering and insecure, especially when the patient is walking slowly. When he wishes to walk from one place to another he is obliged to give himself an impulse repeatedly, which renders his mode of progression the more peculiar. When complicated movements—such as climbing or jumping—are attempted, the exertions made to achieve them bear no relation to the result attained. When the patient has fairly commenced to advance he can accelerate his movements, and even run; when lying in bed, so that the trunk is supported, he has no difficulty in moving his feet. As the disease advances articulation becomes still more limited and very indistinct; it is always necessary to guess the words; the legs are almost deprived of their power to support the body. When the affected person rises from his chair and walks, he rests his hands upon the back of his chair, raises himself up slowly, and, like a child that is measuring its first steps, bends to the right, and bends to the left, then makes an attempt, and drags himself slowly

along in a zigzag direction. He stumbles over the most trifling impediment, and is constantly tumbling down."* These affections of the motility may exist for a long period before symptoms of a more decided and alarming character awaken attention and excite apprehension.

Romberg admits that he is unable to satisfactorily explain these phenomena. This irregular action of the motor power occurs in hemiplegic subjects, and especially in cases of cerebral hemorrhage. The patient, when in active locomotion, advances with the healthy foot, which forms the fulcrum of the body, while the paralysed extremity, with the toes pointed downwards, performs circular or semicircular movements slowly, and with a sort of slide. The other is met with in hydrocephalic patients, before the supervention of complete immobility, and has been accurately described by Gölis.

When engaged in walking the patient drags one of his legs as if it were heavier than the one on the opposite side. This symptom occasionally exists to so slight a degree that it may be present for some time and be unnoticed, unless the attention were particularly directed to the state of the muscular system and powers of locomotion.

The patient is often seen to oscillate like a drunken man. He has partially lost his balancing power. In cases of impending paralysis this symptom is often observed. The gestures, gait, and walk closely resemble the movements of a person slightly under the influence of stimulants. These irregular actions of the muscular system are allied to those observed in the earlier as well as in the more advanced stages of *Chorea*.

Convulsive Action.—Irregular and morbid states of the

* "A Manual of the Nervous Diseases of Man." By M. H. Romberg, M.D. Translated from the German by E. H. Sieveking, M.D. London, 1853

motor power or muscular fibre are generally grouped under the head "Convulsion." Among this class of affections epilepsy, in all its varied types and degrees of manifestation, occupies a prominent position.

This disease admits of a threefold division, viz. :—

α. *Epilepsy.*
With violent muscular movements.

β. *Epilepsy.*
Nocturnal in its character, and accompanied with slight muscular convulsion.

γ. *Epileptic Vertigo and Syncope.*
Without muscular convulsions.

This affection is divided into two classes—viz., *epileptic vertigo*, without apparent convulsive action, or the *Petit-mal* and epilepsy with convulsions, or the *Grand-mal*; but there exists a modified type of epilepsy, occurring generally at night, with slight and often unobserved convulsive muscular action, termed hidden seizures, which is distinct (not in its *nature*, but in its form of *manifestation*) from the true epileptic convulsive paroxysm.

The attacks of epilepsy that occur at night are generally accompanied by little or no marked disturbance or irregular action of the muscular system. Occasionally the convulsive movement, when it takes place, is analogous to an attack of *spasm*. In many cases the epileptic fit closely resembles an unimportant twitching of the muscular fibres, occasionally observed in conditions of gastric or intestinal irritation to occur during sleep. How many cases of insidious epilepsy are detected, particularly among children, by these symptoms.

Nocturnal epilepsy may exist for months, and even years, without attracting observation, until the bodily health has been seriously undermined, and the mental

powers are fatally and irremediably impaired. Patients suffering from these hidden, and for a time unrecognised attacks, complain of great muscular, vital, and nervous debility, disturbed and unrefreshing sleep, depression of spirits, and headache, particularly on waking. If the epileptic seizures that occur at night are undetected and allowed to proceed without any treatment being adopted to arrest their fatal progress, the physical health generally becomes seriously impaired, and the mind speedily sinks into a condition of senile imbecility. The incipient symptoms accompanying this state of cerebral ill-health, are mental lassitude, weakened powers of attention, impaired memory, enfeebled volition, and occasionally marked indifference to all the important concerns and business of life.

This mischievous form of nocturnal epilepsy may continue for years without the patient being aware of its existence. Trousseau points out two principal signs denoting the presence of this insidious type of epilepsy, viz., a *bitten tongue* and *paralysis of the bladder*. If the person complains of waking with headache, having the lateral parts of the tongue lacerated, and it has been ascertained that urine has been passed unconsciously, it may be concluded that a nocturnal attack of epilepsy has occurred. In a very great number of cases there are also observed on the forehead, and especially below the eyes, myriads of petechiæ, the size of a pin's head, which are never produced under other circumstances. In possession of these details, the diagnosis of this form of the disease becomes certain, while without their aid it is almost impossible.*

* A young man, aged twenty-two years, condemned to five years' imprisonment by a court of assizes for having struck, without provocation, one of his best friends a blow which nearly killed him, was subject to attacks of epilepsy during sleep. Morel, who relates the case, was able to verify this fact in the prison where this unhappy man was confined,

The premonitory symptoms of ordinary epilepsy vary according to the proximate cause of the disease as well as to the constitutional temperament of the patient. Many epileptics have clear intimations of the approaching attack. These warnings occur for several days prior to the accession of a paroxysm. Some have disturbed dreams for many nights previously; others are subject to spectral illusions; occasionally patients complain of singular and perplexing trains of thought a few hours before the fit. Epilepsy is often preceded by remarkable affections of the motor power, lesions of sensibility, peculiar sounds within the head, resembling the tinkling of bells, roar of the sea, bleating of sheep, and in one case the patient for two days previously to his epileptic paroxysm, heard distinct sounds like those proceeding from a number of persons quarrelling.

Foville, when speaking of the premonitory signs of epilepsy, remarks, that "a peculiar sensation, it may be of cold, pain, heat, or itching, is developed suddenly in a toe, a finger, a limb, in the belly or the back, and from the point whence it originates, mounts gradually to the head. When it arrives there, the patient immediately falls (as if struck), and the convulsions break forth at once. This sensation has received, from the earliest times, the name of *aura epileptica*. It is rare; so much so, that by many its existence is doubted or ignored, and by others explained in a different manner." Dr Herpin considers this aura as nothing more than the commencement of a tonic spasm of the muscles of the limb.

The case of a young epileptic is recorded, who, at the

who was descended from a family among whom might be counted epileptics, insane persons, and individuals who had died of cerebral hemorrhage. He had no clear recollection of the offence for which he was incriminated, neither did he show the least regret for it. This apparent insensibility, the consequence of his disease, did not contribute a little to his condemnation.

moment of invasion, perceived exclusively with the left eye, a toothed wheel, the centre of which was occupied by a hideous figure. In another patient the fit was invariably preceded by an intense feeling of hunger. In a third, since insane, a little blue imp perched upon the table, and moped and mocked at him as he lost his consciousness. In a fourth, a guitar seemed to have been roughly grated near the ear.

"Remarkable intellectual activity has sometimes signalised," says Morel, "the commencement of epilepsy among the young. A wonderful aptitude to conceive things quickly, to examine them under their most brilliant and poetical aspects, has been exhibited by many of them. History has transmitted to us the names of several men of great genius who have been epileptics; but these have been the victims of most tyrannical passions. The full and entire preservation of the faculties of epileptics, the possibility of applying them in a continuous manner to the execution of designs remarkable for their grandeur and continuity, are in fact excessively rare." "There are, however," says M. Sandras, "some exceptions to this rule, viz., as Cæsar, Mahomet, Petrarch."

"The first change remarked in the character of epileptics threatened with insanity is the very great irritability which takes place without, and even at the least contradiction, under the most varied, and sometimes most compromising forms. In the first period of their affection it is natural to see that the diseased pre-occupations of epileptics have a *point d'appui* in the elements which constitute the great diversity of temperament and character. Hypochondriasis and hysteria have an undeniable action in the delirium which begins to systematise itself in the mind of the patients. Pre-occupations on the subject of their health, unjust complaints, recriminations without foundation, de-

cided venereal tendencies, are facts which awaken the just solicitude of families." *

The sensations which the patients describe as preceding the fit are extremely various. But even after hearing the details of a small number, it cannot fail to suggest itself that they may, without an effort, be ranged in two classes—those that are referred to the trunk and extremities, and those that appear at once to affect the head. In the former case the sensation is always described as mounting towards the head, and in the majority of cases the paroxysm appears to strike down the patient on its reaching that part. In the latter the sensation commonly takes the form of some strange illusion, which, however, the patient is able to recognise.

Peiroux relates the case of a young man who, when his fits came on, thought he saw a carriage drive up at a gallop and with great noise, containing a little man in a red bonnet. Fearing to be *écrasé* by the carriage, he fell down stiff and without consciousness. Peculiar dreams may indicate the approaching epileptic paroxysm. A man dreamt that he was pursued by a bull, and soon after waking was seized with a fit.

According to Falret, certain epileptics become sad, peevish, quarrelsome, and irritable several hours before the fit. Other patients complain of slowness of conception, failure of memory, obtuseness of ideas, of a kind of hebetude or physical or moral prostration prior to the occurrence of a fit. Some patients are unusually gay, having exaggerated sense of physical and moral well-being, an excess of confidence in their own strength, and sometimes even get into a state of loquacious restlessness, which may be pushed on to maniacal excitement or to violent bursts of passion.

* "A Treatise on Mental Diseases," by Dr B. A. Morel. Paris, 1860. P. 696.

Among other premonitory symptoms, Trousseau has known patients to complain of hearing the sounds of bells or of voices uttering the same word in a determined tone. Other patients are troubled for a short time before the attack by strange smells, odd sounds, and various kinds of phantasmagoria.

"There is scarcely," says Dr Sieveking, "an impression referrible to the nerves of common or muscular sense, or of the special senses, which does not occasionally indicate the approach of an epileptic fit. The premonitory symptom is generally accompanied by a sense of fear and terror. One of my patients described the sensation, which in him passed from the stomach to the head, as of a pleasing character. Children particularly show the alarm they experience by running to and clinging to their nurses or mothers. The aura may be an undefined sense of indisposition or discomfort; it may be a definite pain, giddiness, or suffocating feeling; or it assumes the more classical form described as an aura, which is characterised by the passage of a peculiar sensation from some part of the body to the throat or head. In the case of the last we would specially observe that authors commonly state that when the aura or sensation reaches the head the insensibility ensues. It has rather appeared to us that the patients refer the termination to the throat. With some patients the premonitory symptoms assume a more tangible form, and one that makes itself perceptible to bystanders.

"Dr Cooke relates a case in which the approach of a paroxysm was indicated by a peculiar blue colour of the lips. 'Frank,' as related by Dr Copland, 'saw the paroxysm preceded by an eruption over the whole body except the face, of the vitiligo alba.' The same author states, 'that in twenty-one epileptics treated in the clinical wards of the hospital at Wilna, vomiting announced the paroxysm in

seven.' Symptoms that may be termed objective have presented themselves to me in the form of tremors, cough, sickness, rigors, and a shaking of one hand.

"Schenck relates a case of epilepsy which came under his own observation, in which the patient, before the seizure, was repeatedly turned round in a circle, and then fell to the ground in an ordinary paroxysm, 'magna astantium commiseratione.' Peiroux (quoted by Tissot) mentions a man who, before becoming unconscious, was compelled to run backwards ten steps; the unconsciousness was very brief, and he at once rose up again as if nothing had occurred. In Schenck we also find the account of a man, aged thirty, of whom it is said in rather quaint Latin, '*Solebat, quum duos vel tres passus progressus esset, sese inflectere quasi in circulum, idque continenter facere compulsus erat.*' This patient subsequently became epileptic, and the peculiar movements then ceased. Such cases as those related by Schenck and Peiroux have received the name of 'epilepsia cursiva,' under which term Dr Andree* details two well-marked instances which were both cured by venesection, antiphlogistic remedies, and antispasmodics. They are instructive and well told, so as to justify my inserting one of them briefly here:—'Rebecca Cole, ætatis 16, before her seizures first perceives a weight in her head, which makes her hang it down; then a tremor all over ensues, and a sense of faintness; she then runs till she meets with some resistance, then falls down, struggles at first, after which she lies still, and gradually recovers. The fit being over, she trembles, is faint, sick at stomach, and dizzy; and now, by frequent returns of them, is almost become stupid.'"†

* "Cases of Epilepsy, Hysteric Fits, and St Vitus's D ance," by John Andree, M.D. London, 1746.

† "On Epilepsy and Epileptiform Seizures," by E. H. Sieveking, M.D. 1858.

Affections of the Tongue and Muscles of the Mouth.—In the premonitory stage of paralysis the tongue often gives evidence of a deficiency of muscular strength. The patient is observed to have lost, to a degree, the power of protruding it rapidly and freely from the mouth, and occasionally he cannot do so at all. I have frequently noticed this symptom in connexion with other signs of flagging motility, as precursory of severe attacks of cerebral disease, particularly of softening. Occasionally the tongue is observed to be tremulous and turned *slightly* on one side. This symptom has been observed occasionally as the *avant courier* of fatal attacks of apoplexy, softening, and paralysis.

In the early stage of general paralysis the tongue occasionally presents an hypertrophied appearance. It looks large and flabby. I have often noticed this symptom associated with softening and other organic lesions of the brain, but it is more particularly characteristic of cerebral paralysis. An inability to forcibly eject saliva from the mouth, in consequence of a slight paralysis of the *orbicularis oris* and *buccinator* muscles preceding more marked and decided symptoms of cerebral disorder, has indicated serious alterations in the structure of the brain. Sir Thomas Watson details at length a deeply interesting illustration of this fact, symptomatic of cancer of the brain :—"The patient found, when he came down stairs on the morning after he was taken ill, *that he could not spit as usual,* and his friends observed an unusual state of his features. He had no fit nor loss of consciousness, but he thought his memory was failing. At the time when the paralysis was first noticed, he had some numbness and tingling in the right arm, extending to the last two fingers. He was deaf in the right ear."*

* "Practice of Physic," by Sir Thomas Watson, Bart., M.D.

HANDWRITING.—A remarkable peculiarity in, and singular variation from, the ordinary character of the handwriting, have been observed as the first signs of approaching general paralysis, softening of the brain, and apoplexy. The patient has not been able to write in a straight line or to form his letters correctly. Occasionally he singularly misplaces his words, and appears to have lost all power of correct spelling. When writing, the patient substitutes one word for another, his letters are flighty, full of eccentricities, blunders, and erasures. How often have these symptoms been observed for months before a suspicion has existed as to the healthy state of the brain.

PARALYSIS AGITANS.—Any analysis of the incipient morbid phenomena of the *motor* power would be incomplete which did not embody a description of the premonitory symptoms of that singular disorder of the nervo-muscular system termed paralysis agitans.

Mr Parkinson was the first writer who directed attention to this singular malady. He gives the following history of the precursory and advanced stage of this disease:—

The incipient symptoms are a slight sense of weakness, with proneness to trembling in some particular part; sometimes in the head, but most commonly in one of the hands and arms. These symptoms gradually increase in the part first affected; and at an uncertain period, but seldom in less than twelve months or more, the morbid influence is felt in some other part. Thus, assuming one of the hands and arms to be the first attacked, the other at this period becomes similarly affected. After a few more months the patient is found to be less strict than usual in preserving an upright posture: this being most observable whilst walking, but sometimes whilst sitting or standing. Sometimes after the appearance of this symptom, and

during its slow increase, one of the legs is discovered slightly to tremble, and is also found to suffer fatigue sooner than the leg of the other side; and in a few months this limb becomes agitated by similar tremblings, and suffers a similar loss of power.

Hitherto the patient will have experienced but little inconvenience; and, befriended by the strong influence of habitual endurance, would perhaps seldom think of his being the subject of disease except when reminded of it by the unsteadiness of his hand whilst writing or employing himself in any nicer kind of manipulation. But as the disease proceeds, similar employments are accomplished with considerable difficulty, the hand failing to answer with exactness to the dictates of the will. Walking becomes a task which cannot be performed without considerable attention. The legs are not raised to that height or with that promptitude which the will directs, so that the utmost care is necessary to prevent frequent falls.

At this period the patient experiences much inconvenience, which unhappily is found daily to increase. The submission of the limbs to the directions of the will can hardly ever be obtained in the performance of the most ordinary offices of life. The fingers cannot be disposed of in the proposed directions, and applied with certainty to any proposed point. As time and the disease proceed, difficulties increase; writing can now be hardly at all accomplished; and reading, from the tremulous motion, is accomplished with some difficulty. Whilst at meals the fork, not being duly directed, frequently fails to raise the morsel from the plate; which, when seized, is with much difficulty conveyed to the mouth. At this stage the patient seldom experiences a suspension of the agitation of his limbs. Commencing, for instance, in one arm, the wearisome agitation is borne until beyond sufferance, when, by

suddenly changing the posture, it is for a time stopped in that limb, to commence, generally in less than a minute, in one of the legs, or in the arm, of the other side. Harassed by this tormenting round, the patient has recourse to walking, a mode of exercise to which the sufferers from this malady are in general partial, owing to their attention being thereby somewhat diverted from their unpleasant feelings by the care and exertion required to insure its safe performance.

But as the malady proceeds, even this temporary mitigation of suffering from the agitation of the limbs is denied. The propensity to lean forward becomes invincible, and the patient is thereby forced to step on the toes and fore part of the feet, whilst the upper part of the body is thrown so far forward as to render it difficult to avoid falling on the face. In some cases, when this state of the malady is attained, the patient can no longer exercise himself by walking in his usual manner, but is thrown on the toes and fore part of the feet, being at the same time irresistibly impelled to take much quicker and shorter steps, and thereby to adopt unwillingly a running pace. In some cases it is found necessary entirely to substitute running for walking; since otherwise the patient, on proceeding only a very few paces, would inevitably fall.

The sleep now becomes much disturbed. The tremulous motions of the limbs occur during sleep, and augment until they awaken the patient, and frequently with much agitation and alarm. The power of conveying the food to the mouth is at length so much impeded that he is obliged to consent to be fed by others. The bowels, which had been all along torpid, now in most cases demand stimulating medicines of very considerable power; the expulsion of matter from the rectum sometimes requiring mechanical aid. As the disease proceeds towards its last stage, the

trunk is almost permanently bowed, the muscular power is more decidedly diminished, and tremulous agitation becomes violent.

The patient walks with great difficulty, and, unable any longer to support himself with his stick, he dares not venture on this exercise unless assisted by an attendant, who, walking backwards before him, prevents him falling forwards by the pressure of his hands against the fore part of his shoulders. His words are now scarcely intelligible, and he is not only no longer able to feed himself, but when the food is conveyed to the mouth, so much are the actions of the muscles of the tongue, pharynx, &c., impeded by impaired action and perpetual agitation, that the food is with difficulty retained in the mouth until masticated, and then as difficultly swallowed. Also, from the same cause, another very unpleasant circumstance occurs; the saliva fails of being directed to the back part of the fauces, and hence is continually draining from the mouth mixed with the particles of food which he is no longer able to clear from the inside of the mouth.

As the debility increases and the influence of the will over the muscles fades away, the tremulous agitation becomes more vehement. It now suddenly leaves him for a moment; but even when exhausted nature seizes a small portion of sleep, the motion becomes so violent as not only to shake the bed-hangings, but even the floor and sashes of the room.

The chin is almost immovably bent down upon the sternum. The fluids with which he is attempted to be fed, with the saliva, are continually trickling from the mouth.

The power of articulation is lost. The evacuations are passed involuntarily; and at the last constant sleepiness, with slight delirium, and other marks of extreme exhaustion, announce the fatal result.

Affections of the Spinal Cord.—As a general rule, the motor power is affected in all cases of softening of the spinal marrow, but there are on record exceptional cases. Dr Janson of Lyons has published the particulars of one in which the spinal marrow was for the most part in a state of *bouillie*, yet the patient had no impediment in the power of motion. M. Velpeau cites an instance in which the cervical portion of the spinal cord was morbidly softened without impairing the motor power. In animals the spinal cord has been damaged without interfering with the muscular movements. Andral, when addressing himself to this subject, observes—"Do all not know that the fœtus during uterine life has free power of motion, although its spinal cord at that period is far from having that consistence which it acquires subsequently." M. Rullier relates a case where there was considerable softening of the spinal cord, but communication was maintained between its upper and lower portions merely by a slight though firm slip; there was no relation between the part of the cord affected and the parts of the body capable of being moved; the patient could walk, but his arms were paralysed and contracted.

There is a form of acute softening of the spinal marrow which developes itself very suddenly, progresses with great rapidity, and speedily terminates in death. These cases of acute ramollissement of the spinal cord resemble in many of their features those of cerebral hemorrhage. The patient, in the first instance, appears to have an attack of severe lumbago. This is succeeded by great muscular debility in the spinal column as well as in the lower extremities. Coma then speedily supervenes, the limbs become forcibly contracted, and the patient dies in a state of tetanic spasm. In many cases, however, even in acute softening of the spinal cord, the mind often continues free from all disorder.

Softening of the cerebral hemispheres, according to Andral, induces alteration in *motion* much more constantly than in *intelligence*. However, even this rule is not, he says, without exceptions. He cites some cases in which there was not observed, in reference to *motility*, any appreciable modification. In four instances the softening occupied different portions of the brain. In one case it was limited to the convexity; another time it occupied, at the base of the anterior lobe of one of the hemispheres, a space large enough to contain a pullet's egg. In two other cases it occupied several points of the two hemispheres. Several cases, however, are on record in which softening of the brain existed without any disturbance of motion.* "When this does happen," says Andral, "it is probable that the softening of the brain takes place very slowly. Such cases remind us of those in which the brain, subjected to a gradual compression by tumours developed around it or in its substance, does not announce its suffering by any paralysis or other disturbance in locomotion.

"When motion is affected (and this case may be regarded as nearly constant) it is very far from being always affected in the same way. It has been laid down much too generally that softening of the brain produced in the greater number of cases a flexion (contracture) of the limbs. Observation has satisfied us that this flexion may be as often absent as it is present; but it is very true that when it does occur it becomes an excellent sign to distinguish a softening of the brain from any other affection of this organ. Let us not, however, regard such a sign as pathognomonic, for it has been found in other cases where there was no softening. It has been often noticed, for instance, in the cases of congenital atrophy of the brain

* "Répertoire de Anatomie et de Physiologie Pathologique," par Breschet. Tom. i. p. 116. Also "Journal Hebdomadaire," tom. iv. p. 270.

published by MM. Bouchet and Casauvielh.* The modifications which motion undergoes in cases of softening of the brain are far from being always of the same nature. These modifications most usually consist either in simple paralysis, flexion of the limbs, or in convulsions. There are other cases, then, in which motion is modified in quite a different way."†

PERIPHERAL PARALYSIS.—I have not yet spoken of those lesions of motor power commencing in the peripheral extremities of the nerves, and which are occasionally seen to progress upwards from the lower limbs, and ultimately involve the great ganglia of the nervous system, and eventually the brain itself. The early symptoms of this affection are occasionally altogether overlooked in consequence of their great obscurity. A patient complains of a general failure in the muscular tone of his feet and legs. He (if accustomed to active walking) is conscious of his inability to take his usual amount of exercise. He notices for some time no other alteration in the motor power. The loss of muscular strength is confined to the foot and leg. This state of local partial paralysis may exist for years before the patient has any apprehension of danger, or feels under the necessity of obtaining medical advice.

There is another form of paralysis to which Dr Duchenne of Boulogne was the first to direct attention. I refer to "*de l'ataxie locomotrice progressive,*" or progressive locomotor ataxy.

Dr Duchenne thus defines the affection:—"Progressive abolition of the faculty of co-ordinating movements and apparent paralysis, contrasting with the integrity of the muscular power."

This singular disorder is very obscure in its origin. Its

* "Archives Générales de Médecine," tom. ix.

† "Clinique Médicale," by M. Andral.

accession is often known by strange sensations, by a sense of constriction of different parts of the body, the patient feeling as if his chest, arms, or legs were compressed by an india-rubber cuirass; his shoes feel too tight, and he has often the sensation of a belt constricting his abdomen. And, just as in the most confirmed cases of paraplegia, there is paresis of the rectum and bladder, and even paralysis of their sphincters.

When this disease is fully developed, the symptoms, according to Trousseau, are as follows: — The patient staggers a little, especially as he gets up after having sat down for a long time. He rests on a stick or on the chair which he has just left; and he starts. As he takes the first step, the arm which does not rest on the stick leaves his side and oscillates like that of a rope-dancer, and his body inclines a little forwards. His walk is at first slow and uncertain, but becomes involuntarily hurried; whereas in true paralysis the leg is slowly lifted off the ground and is dragged along, in ataxy the foot is thrust forwards in variable directions, and comes down suddenly. Instead of the measured flexion of the knee-joint, which obtains normally, the flexion is sudden, and followed by forcible extension.

When the disease is in a more advanced stage, if the patient does not rest on a stick, he throws his legs about with still greater disorder, and the inequality of his steps renders the loss of equilibrium still more imminent. Both arms are then moved about in an eccentric manner, and the trunk itself is inclined or straightened according to the displacement of the centre of gravity. This uncertainty and difficulty of progression does not prevent the patient from walking several miles on even ground.

In the advanced stage of the malady, Trousseau remarks, that when the patient is in the dark, or when he

voluntarily shuts his eyes, the uncertainty of his gait increases so much that he is absolutely incapable of moving a single step without falling.

If a patient suffering from this malady is asked to stand and keep his feet closely applied together along their inner edges, he manages to do it with some difficulty when his eyes are open, even at an early stage of this disease. But when he shuts his eyes, he immediately oscillates and falls, unless he be supported, or opens his eyes and takes hold of a point of support, or again, unless he makes considerable exertions to recover his equilibrium.

This inability to maintain an equilibrium after the eyes are closed, Dr Trousseau considers a symptom of great value, the more so as in ordinary paralysis nothing of the kind is observed.*

* "Lectures on Clinical Medicine." Translated by P. Victor Bazire, M.D. Lond. and Paris. London, 1867.

CHAPTER XIX.

CEREBRAL MORBID PHENOMENA OF SPEECH.

THIS subject will be considered in the following order:—

1. *Aphasia, or loss of speech.*
2. *Cerebral localisation of speech.*
3. *Irregular action of articulation.*
4. *Impairment and loss of speech.*
5. *Morbid imitative movements, and involuntary acts of articulation.*

Aphasia, or cerebral loss of speech, has within the last few years attracted the attention of physiologists and pathologists, who have specially been engaged in the study of diseases of the brain and nervous system.

Articulate speech depends on three conditions—1. There must be integrity of thought, an idea must be conceived; 2. There must be a connexion between the idea and the conventional signs which constitute the verbal forms of language; 3. The idea being conceived, and the verbal form found, the muscles of phonation and of articulation must be able to obey the mandates of the will. Thus we have two forms of Aphasia, viz.:—

1. Where one or both of the two first conditions of speech are wanting, where either no idea is formed, or, if formed, the words to express it are not at hand—are not remembered. This is the *anmestic form*, and is purely an intellectual defect.

2. Affections of speech dependent on grave disorganisation of brain-matter. The lesion may be purely a motor one, and the patient may will to express his ideas in words, but the fibres being ruptured, the volitional incitations are not conveyed.

The classification of this subject adopted by Dr Popham is the one generally received. It is as follows:—

1. *Aphasia propter dementiam*—Mutism from idiocy.
2. *Aphasia surdorum ab ortu*—Deaf-mutism.
3. *Aphasia ficta*—Feigned or voluntary mutism.
4. *Aphasia ab ecstasi vel melancholia* — Mutism self-imposed from high mental tension or depression.
5. *Aphasia attonitorum* — Speechlessness from sudden and intense emotion, especially terror.
6. *Aphasia traumatica*—Mutism from traumatic causes.
7. *Aphasia spasmodica*—Spasmodic mutism.
8. *Aphasia a debilitate vocis*—Aphonia.
9. *Aphasia sympathetica* — This condition is most frequently associated with some form of fever.
10. *Aphasia a narcotis* — Caused by vegetable narcotic poisons.*
11. *Aphasia a vitio instrumentorum loquendi*—Local injuries of the speech-organs, &c.
12. *Aphasia a glossolysi*—Lingual palsy caused by lesions of the brain upon or near the origin of the hypoglossus nerve between the olivary and pyramidal bulbs.*

* In the "Dublin Quarterly Journal," Nov. 1865, Dr Popham details a case of temporary dumbness in a boy who had eaten the roots of *Œnanthe crocata*. Sauvages mentions that robbers infesting Montpellier in his time drugged the wine in taverns with the juice of the seeds of *Datura stramonium;* those who drank it could not speak a word for two or three days, although wide awake. The berries of *Atropa Belladonna* and roots of Hyoscyamus are said to have a like effect.

* "Aphasia; or, Cerebral Loss of Speech." By John Popham, M.B. Dublin and Cantab. Dublin, 1867.

Attempts have been made to localise the organs of speech, and to ascertain by carefully-executed *post-mortem* examinations, as well as by accurately-observed physiological experiments upon animals during life, the precise portion of the brain influencing and regulating this faculty.

M. Bouilland has localised the cerebral seat of speech, or, as he terms it, "*le pouvoir legislateur de la parole*," in the *anterior* lobes of the brain. Gall, Serres, Pinel, Grandchamp, Belhomme, also maintain that the *anterior* lobes of the brain preside over speech, and a number of cases of total and partial loss of this function have been cited in which this portion of the encephalon has been discovered, after death, to be organically affected.

In 1845, at l'Académie Royale de Médecine, M. Belhomme read a memoir, "On the Localisation of Speech in the Anterior Lobes of the Brain," in which, by a reference to ten cases which he narrates, he endeavoured to prove that the cerebral organ which regulates speech is seated in the anterior lobes of the brain. M. Belhomme arrived at the following conclusions:—

1. "Affection of the faculty of speech depends either on a cerebral affection or on a lesion of the organs of communication between the brain and the organs of speech.

2. "The sudden loss of speech depends on hemorrhagic or other lesion of one, or more frequently of both, anterior lobes of the brain.

3. "It is necessary to guard against confounding convulsive and paralytic disorders which affect the power of speech with that sudden loss of memory of words, and consequent difficulty of speech, depending on affection of the anterior lobes of the brain.

4. "In disorder or partial destruction of the anterior

lobes of the brain, the speech is suddenly arrested, and it is only after a cicatrix has formed in the brain that the organ recovers more or less of its former function."

Out of thirty-seven cases carefully observed and analysed by Andral, as well as by other pathologists, relative to hemorrhage and other cerebral lesions, in which the morbid affection resided in one of the anterior lobes, or in both, speech was abolished in *twenty-one* and retained in *sixteen.*

The particulars, however, of fourteen cases were collected by Andral, where the speech was abolished without any alteration in the anterior lobes. Of these fourteen cases, *seven* were connected with diseases of the middle, and the same number with diseases of the posterior lobes.

The loss of speech is not then, as Andral concludes, the *necessary* result of the lesion of the anterior lobes. It may take place in cases where examination does not reveal any alteration at all in the structure of these lobes.* M. Lallemand has cited a case in which no other change was detected than softening of the white substance of the left lobe of the cerebellum. In this case the faculty of speech was completely lost.†

Olivier records the particulars of a patient in whom occurred the phenomenon of loss of speech, at first partial, and then complete. In this case there was organic disease of the *pons varolii,* but no affection of the anterior lobes. The former part of the brain was found softened at its lower surface to the size of a filbert.‡

Cruveilhier cites some remarkable cases of extensive disorganisation of the anterior lobes of the brain, the functions of speech remaining intact. Modern pathologists have placed upon record similar instances.

* Andral's "Clinique Médicale," p. 119.

† Letter ii. p. 134. ‡ "On the Spinal Cord," tome ii. p. 614.

Undoubtedly cases occur of loss of or serious alterations in the faculty of speech, clearly associated with structural changes in the anterior lobes of the brain; but to prove anything like a physiological and pathological relationship between the phenomena, it will be necessary to establish a greater uniformity of cause and effect than the researches of morbid anatomists at present appear to justify.

M. Velpeau refers to a patient in whom great organic destruction of the anterior lobes was caused by a tumour without producing loss of speech. Dr Popham quotes from Sir Philip Crampton the following remarkable illustrative case:

In 1818, Mr H. Brougham, aged 18, nephew of Lord Brougham, received a gun-shot wound in the forehead, which exposed the anterior lobes of the brain. In cleansing the wound, scarcely had three drops of water fallen on the part when the patient cried out, "Oh, don't; oh, what's that?" "I asked him," says Sir Philip, "if I had hurt him?" He said, "I do not know, but the sensation is dreadful." This great wound of the frontal convolutions healed up in time, leaving a depression which pulsated like the fontanel of an infant. Yet this gentleman, so far from losing his speech, took holy orders in the church, and became a most efficient preacher.

In a work published a few years back an attempt is made to establish a close physiological and pathological connexion between the functions of articulation and speech and the *corpora olivaria*. Van der Kolk was led to this conclusion in consequence of the anatomical connexion existing between the two previously-mentioned cerebral ganglia and the nuclei of the hypoglossus.* "Speech," he

* "On the Minute Structure and Functions of the Spinal Cord and Medulla Oblongata, and on the Proximate Cause and Rational Treatment of Epilepsy." By Professor Schroeder Van der Kolk. Translated by W. D. Moore, A.B., M.B., 1859. (New Sydenham Society.)

observes, "and the articulation of words require such a multitude of peculiar motions of the tongue, and such an infinite number of varying combinations of its muscular movements, that two auxiliary ganglia should be required for the performance of these functions." Van der Kolk cites numerous cases in illustration of his hypothesis. His friend, Dr Röell, allowed him to examine the *medulla oblongata* of a woman, aged fifty, who had been for twenty-five years insane and completely demented, and could only indistinctly utter the single word "snuif" (snuff). There was paralysis of the right side of the face. In the medulla there was very decided fatty degeneration; the right *corpus olivare* was more slender and somewhat smaller than the left, although both were slender and atrophied. In the *corpora pyramidalia* were numerous wide vessels of 0·276 mm. in the raphe = 0·305. There was no vascular dilatation in the other parts.

Dr Martini, physician to and director of the Leubus Institution for the Insane in Silesia, met with a case of total loss of speech connected with induration of the *corpora olivaria*. Olivier relates a remarkable case of paralysis and dementia of long standing, where eventually the voice was all but wholly lost. The patient could scarcely utter a few articulate sounds. After death, the *corpora olivaria* and *pyramidalia* were found softened and changed into a grey semi-fluid pulpy state. Cruveilhier relates the following case:—

A child of four years had fallen into a state of such general weakness that he could not stand, and had to be carried or laid on a bed; he could, however, move all his limbs, but not guide his movements with precision, nor exercise any muscular force. Deglutition was very difficult, especially of fluids, only a small quantity of which reached his stomach, while the rest was rejected by the

mouth and sometimes through the nose. The articulation of sounds was exceedingly slow; the voice was low and stammering; the little patient still articulated distinctly, but only syllable by syllable; the respiration was weak, often oppressed and sighing, and in a recumbent position was impossible, even when the head was supported by several pillows. The intellectual powers of the child were developed very much beyond his time of life; nutrition was perfectly well performed, the patient being even stout and fat. The illness was the result of convulsions, with which the child had been attacked three years previously, and which had since returned repeatedly at irregular intervals, causing him to be considered epileptic. Five or six months later he died asphyxiated, although in the full possession of his intellect, but no longer able to utter a sound.

On examining the body, Cruveilhier found the *corpora olivaria* as hard as cartilage; in other respects they exhibited no change either of colour or in extent; one of the *crura cerebelli* (the author had forgotten which) and the *tubercula mammillaria* participated in the induration; the entire of the remaining cerebral mass was sound. He was able to examine only so much of the *medulla oblongata* as could be taken out by the *foramen magnum;* the *medulla* was perfectly healthy below and at the sides of the *corpora olivaria.**

Dr Maudt, officer of health in the Dutch Indies, relates the case of a native gunner under treatment in the hospital who was bitten by a serpent called by the natives Oeloer. Severe vertigo immediately ensued, followed by syncope, and in about ten minutes he lost the power of swallowing. These symptoms were associated with total loss of speech,

* Cruveilhier, l. c., livr. xxxv. "Maladies de la Protubérance Annulaire," p. 2.

but unimpaired consciousness. Whenever he was spoken to, he applied his hand to his throat, as if to signify that the part was constricted. He died from the effects of the bite. The principal appearances observed at the *post-mortem* examination were—great congestion of the *medulla oblongata* under the arachnoid, especially between the *corpus olivare* and *corpus restiforme.* There was also a hyperæmia and tension of the cervical muscles which are supplied by the accessory and hypoglossal nerves. Kolk, commenting on this case, says, "that he can scarcely avoid inferring that the *corpora olivaria* were affected, whereby the *nuclei* of the two nerves (accessory and hypoglossal) were injured, particularly in their bilateral relations; consequently the powers of speech and deglutition were completely lost.

A woman, aged twenty-eight, became epileptic and quite silly. She was able to speak, but there was in the tone and accent of her voice something strange which she could not control. The vocal sound varied, without any reason, nearly an octave up and down, and often ended in a sharp, high, discordant tone. Latterly both speech and deglutition were difficult, apparently from paralysis of the right side of the tongue. After death, there was found atrophy of the right *corpus olivare,* and dark ganglionic cells were scattered in and around the *nuclei hypoglossi,* especially that of the right *hypoglossus.* The entire *medulla oblongata* had fallen into a state of decided fatty degeneration. In the fits the patient often bit her tongue. It is not probable, says Folk, that the dark degeneration of the ganglionic cells was of very recent occurrence, though this would certainly closely correspond with the symptoms above detailed.

Pinel says that as alterations in speech are characteristic of general paralysis, and changes in the *corpora*

olivaria are equally constant, the latter ganglia must be connected with the articulation of the sounds formed in speech, and consequently with the development of voice.*

This section of my inquiry would be incomplete unless I referred to the more recent investigations of Dr Mark Dax and Dr Broca, with reference to the part of the brain alleged to be more closely connected with the physiological conditions of Aphasia. Dr Mark Dax localises the faculty of speech exclusively in the *left* hemisphere of the brain; but the subsequent investigations of his son, Dr G. Dax, led to the conclusion that in Aphasia the lesion is not only invariably seated in the left hemisphere, but in the *anterior and outer portion of the middle lobe* of that hemisphere close to the *Insula of Reil*.†

In order to give the reader a right conception of this part of the brain, it will be necessary to borrow the following anatomical description as quoted by M. Trousseau from M. Broca's memoir:—"The sulcus of Rolando separates the frontal from the parietal lobe, running obliquely from above downwards along the outer surface of the hemisphere, and beginning at the median fissure between the two

* *Vide* Professor Kolk's work, p. 164.

† M. Trousseau asserts that there is not a single authentic case on record of Aphasia with *left* hemiplegia thus establishing that the cerebral loss of speech is the effect of a lesion in the *left* cerebral hemisphere, and never by lesion of the *right*. Dr Austin Flint has recently recorded the history of six cases of Aphasia, which, according to his judgment, disproves the doctrine of the localisation of the faculties of speech in the left hemisphere. He says that further anatomical researches will show that lesion of speech is a more constant accompaniment of *dextral* than of *sinistral* paralysis (*vide* a valuable paper on Aphasia, by Dr Frederick Bateman in the "Journal of Mental Science" for January and April 1868). Dr Dax relates the particulars of 140 cases of Aphasia associated with hemiplegia, in which the paralysis was always on the *right* side.

hemispheres, and ending in the Sylvian fissure. It is limited anteriorly by the transverse frontal convolution, posteriorly by the transverse parietal convolution. The anterior or frontal lobe comprises, therefore, laterally, all that portion of the hemisphere which is situated in front of the sulcus of Rolando, and, inferiorly, all that portion which is in front of the Sylvian fissure. The lower portion of the frontal lobe consists of the orbital convolutions, whilst its upper and lateral portions are constituted by the frontal convolutions properly so called. These are three in number—an upper or first frontal convolution, or middle or second convolution, and a lower or third frontal convolution. They are all directed from before backwards, and terminate, after a more or less tortuous course, in the transverse frontal convolution, of which they seem to be the ramifications. The third frontal convolution is free in its upper half, and separated from the temporo-sphenoidal lobe by the Sylvian fissure, of which it forms the upper margin. It is on account of this relation that the third frontal convolution is sometimes termed the *upper* marginal convolution, whilst the name *lower* marginal convolution is restricted to the first temporo-sphenoidal convolution. When the two marginal convolutions, the upper and lower, are drawn away from the Sylvian fissure, there is seen a large and slightly prominent eminence, from the summit of which proceed five small simple convolutions, or rather five rectilinear folds, radiating in a fan-like manner. This eminence is the *lobule of the insula* which covers the extra-ventricular nucleus of the corpus striatum, and which, rising from the bottom of the Sylvian fissure, is structurally continuous by its cortical layer with the deepest portion of the two marginal convolutions. The result of these structural relations is, that a lesion which extends by continuity from the frontal to the temporo-sphenoidal lobe, or the reverse,

must necessarily pass through the lobule of the insula, and then affect the extra ventricular nucleus of the corpus striatum."

The following case is considered by Dr Popham to illustrate Broca's views:—Mary Murphy, aged sixty, was admitted to the Union Hospital, April, 1865, with right hemiplegia and defective speech. She was in hospital various times during eighteen months, so that her speech was tested from time to time. The memory of words was very defective, and the articulation confused. For "thank you, sir;" she said, "fancy sell;" and being asked what her husband (a pedlar) sold, replied, "procties and pudding pans," which was found to mean "brooches and bosom pins." She had stenosis of the mitral valve, leading to the supposition of embolism as the cause of the paralysis. The right arm was rigidly flexed; the leg was weak, but allowed her to walk with a stick; the emotional powers very much disturbed, the intellect tolerably clear, especially on money matters. In hospital she went by the name of "the serjeant," from the state of discipline in which she kept the patients, using her stick on occasions. We could not test her by books, as she could not read; some words she constantly misapplied. Her attempts at speech utterly failed to convey any meaning. She died of pneumonia after a few days' illness. The right lung was much hepatised, the heart covered with fat, the left auricle contained a decolorised clot moulded to its walls; buff-coloured plugs extended for two inches into the pulmonary veins, and similar emboli blocked up the right cavities and pulmonary artery. The mitral orifice was narrow, its margins ossified; vegetations were on the auricular surface; the aortic valves were sound. There was much effusion of serum under the arachnoid membrane; the right hemisphere was healthy, except some venous dots sprinkled over the centre of Vieus-

sens, and a little fluid in the ventricle. On careful examination of the left hemisphere, the convolution of Broca was softer in consistence than the neighbouring parts, and the remains of an apoplectic cyst, of the size of an almond and empty, but with erosion of its floor, was situated close to the anterior third of the corpus striatum, and running parallel to its course. No emboli were found in the cerebral arteries.*

I now proceed to the consideration of another form of disordered motor power known by the name of GLOSSO-LARYNGEAL PARALYSIS. This disease generally commences with a slight embarrassment of speech. The tongue loses its supple character, and the utterance becomes gradually thick. When eating, the food becomes lodged at times between the teeth and cheeks; the tip of the tongue having to a degree lost its power, the patient is observed to put his finger in his mouth to replace the food on his tongue. The pronunciation of certain words is marked by a nasal resonance. In one case related by Trousseau, the patient was able to articulate the vowels *a, e, i,* but was unable to say *o* and *u;* he was also unable to articulate the consonants *p, b, m, n, k, c, t,* these requiring more or less the intervention of the lips and the tongue. As this paralysis progresses, Trousseau says, "the tongue remains fixed, as it were, behind the lower teeth; its apex and its base are equally motionless; not a single word can be articulated. The first stage of deglutition has become almost completely impossible, and the patient has recourse to all kinds of stratagems for getting his food into the pharynx. He tries to help the orbicularis oris and the buccinator with his hands, and applying them over his mouth and cheeks, he makes repeated and con-

* "Aphasia, or Cerebral Loss of Speech." By John Popham, M.B. Dub. and Cantab. London, 1867.

siderable efforts in order to get his food to pass into the pharynx, and yet he takes great care to chew well what he eats, and to facilitate its gliding down by drinking and throwing his head backwards. At last, he sometimes succeeds in swallowing, but at other times the co-ordinate contraction of the pharyngeal constrictors being at fault, only a small quantity of food gets into the œsophagus, whilst the greater portion is thrown up through the mouth and nostrils, the posterior apertures of the latter having remained open through the paralysis of the soft palate.

"These unfortunate patients are of course a considerable time over their meals, for their appetite remains excellent. Liquids also are often swallowed with great difficulty. Oftentimes small portions of food pass into the larynx, and then to the horrible torture of not being able to swallow is superadded extreme difficulty of coughing in order to get rid of the food which has passed into the larynx and trachea. The anxiety is extreme; at last, after frequent fits of a small jerking cough, the patient gets calm again. Hence, it may be seen, that he is at every moment in imminent danger of death by suffocation.

"When the paralysis has advanced so far, excessive weakness of the respiratory movements may be easily discovered. The walls of the chest scarcely move, and the diaphragm itself sometimes shares in this apparent immobility. At this period of the disease the auxiliary muscles of respiration have also become powerless, and superior thoracic breathing is impossible. If the patient be asked to blow out a candle, he collects all his strength, and yet the flame is scarcely agitated as he blows on it. This is not only owing to a division of the column of air which is expired, and its passing at the same time through the mouth and

nostrils, nor merely to the inability of the patient to contract the buccinators and orbicularis oris in order to guide the column of air, but it is chiefly due to the small volume of this column, and to the paralysis of the bellows, namely, the walls of the chest."*

Irregular Action of the Articulation.—In the early stage of cerebral disease there is occasionally observed a *perversion* of the faculty of articulation. There is a want of co-ordination in the action of those portions of the nervous centres necessary for the production of articulate sounds, or, more correctly speaking, as suggested by Romberg, "there exists an interruption (caused by various morbid states of the brain) in the pre-established harmony which should obtain between the subjective intelligence and the organs of speech, giving rise to those singular anomalies in the co-ordinating faculty of articulation occasionally witnessed in connexion with organic cerebral conditions."

The power of expressing thought in suitable language depends, as Dr Todd observes, upon "the due relation between the centre of volition and that of intellectual action. The latter centre may have full power to frame the thoughts, but unless it can prompt the will to a certain mode of sustained action, the organs of speech cannot be brought into play.

"A loss of the power of speech is frequently a precursor of more extensive derangement of sensation and motion. In some cases the intellect seems clear, but the patient is utterly unable to express his thoughts; and in others there is more or less of mental confusion. The want of consent between the centre of intellectual action and of volition is equally apparent in cases of this description, from the

* "Lectures on Clinical Medicine." By A. Trousseau. Translated by P. Victor Bazire, M.D. Lond. and Paris. London, 1867.

inability of the patients to commit their thoughts to writing."*

In the incipient state of disease of the brain, the patient, if he has not lost all power of articulation, will be observed occasionally to stammer, his words being sometimes half-formed and *clipped*. He also shows signs of great embarrassment when speaking. He commences a sentence without finishing it, either forgetting what he intended to say, or having a difficulty in using the right word to express his mental conceptions. How frequently does this paralysis of the thoughts precede for a length of time all other evidences of vocal muscular loss of power. This cerebral affection is considered to arise from a failure of memory, but such is not the fact. It appears to be a paralysis of *ideas* which exists for a long period antecedently to any actual and noticeable loss of muscular or sensory power. The patient has, however, in many cases a clear notion of what he *wishes* and *means* to say, but is unable to pronounce the words characteristic of his thoughts.

This singular want of co-ordination between the mental conceptions and the act of articulation is distinct in its character from those partial losses of memory of which I have spoken in the chapter on chronic affections of this faculty consequent upon organic cerebral lesions or mechanical injuries to the head.

Sir Thomas Watson relates the particulars of an interesting case in which this forgetfulness of certain *words* was a prominent symptom associated with an apoplectic condition :—

"I received, on the 3d of September, a note written in a remarkably clear and neat hand, desiring that I would call upon the writer, as he had had a severe attack of apoplexy a day or two before. I concluded that the note had been

* "Physiology," by Todd and Bowman, vol i. 1845.

penned by some member of the patient's family, and I expected to see him in his bed paralytic, probably, or manifestly ill. But I found a stout active gentleman walking about in his drawing-room apparently in perfect health, and declaring that he felt so. He showed me, however, a paper written by a surgeon, who on the previous day had brought him to town from a distance, and who had been obliged to return immediately. The paper stated that Mr —— had suffered a sudden and decided fit of apoplexy on the 30th of August; that he was then freely bled; that perfect consciousness was not restored, nor the force of the pulse subdued, till twenty ounces of blood had issued from his arm; and that on the evening of the same day sixteen ounces more were drawn. My patient spoke of going down to his country-house, where he had, he said, 'a good deal of shooting to do.' I dissuaded him from this, and enjoined perfect quiet for at least a fortnight to come. The next day, after a long and imprudent conversation with a friend, he suddenly lost the thread of his discourse and could not recover it. Then he became confused and misapplied words. I asked him how he felt. He answered, 'Not quite right,' and this he repeated very many times, abbreviating it at first into 'not right,' and at length into 'n'ight.' Wishing to mention '*camphor*,' he called it '*pamphlet*.' I mention these as specimens. On the 5th it was evident that his right arm and leg were weak in comparison with the others; but their sensibility was unimpaired. By slow degrees the weakness degenerated into complete palsy, and the right side of the face became motionless. Gradually, also, he grew heavy, stupid, comatose, unable to swallow, with a fixed pupil; and so on the morning of the 15th of September he died. We examined his head the next day. On the left side the dura mater adhered to the skull-cap with morbid firmness. During the endeavours made to detach

it, a tablespoonful or more of a dirty-looking, greenish, very offensive pus spurted forth. This was found to have proceeded from an abscess which must have contained two ounces of pus, and which was situated in the upper part of the left hemisphere of the cerebrum. The walls of the abscess looked as if they were coated with a layer of yellowish plaster. In the centre of this cavity was a small fibrous tough mass, of a dull red colour, the coagulum, doubtless, of blood effused on the 30th of August. In front of the abscess the brain *seemed* natural, but its consistence was that of liquid custard." *

An attorney, says Dr Crichton, much respected for his integrity and talents, had many sad failings to which our physical nature too often subjects us. In his seventieth year he married an amiable lady much younger than himself, and indulged in great excesses. He was consequently suddenly seized with great prostration of strength, giddiness, forgetfulness, insensibility to all the concerns of life, and every symptom of approaching fatuity. When he wished to ask for anything, he constantly made use of some inappropriate term. Instead of asking for a piece of *bread*, he asked for his *boots;* if he wanted a tumbler he would call for a decanter, and *vice versâ*. He was evidently conscious that he pronounced wrong words, for when the proper expressions were used by another person, and he was asked if it were not such a thing he wanted, he always appeared aware of his mistake, and corrected himself by adopting the appropriate expression. This gentleman was cured of his complaint by large doses of valerian and other nervine medicines.

Professor Gruner of Jena relates the history of a learned friend of his whose articulation was affected in a singular

* "On the Principles and Practice of Physic," vol. i. p. 512. By Sir T. Watson, Bart., M.D.

manner. After recovering from an acute fever, one of the first things he desired to have was coffee (*kaffee*), but instead of pronouncing the letters *f f*, he substituted in their place a *t* and *z*, and therefore asked for a cat (*katze*). In every word which had an *f* he committed a similar mistake, substituting a *z* for it.

Van Goens says that the wife of Mr Hennert, professor of mathematics at Utrecht, who, like her husband, was also a mathematician and astronomer, was affected with a remarkable defect of articulation. When she wished to ask for a chair she asked for a table, and when she wanted a book she demanded a glass. But what was singular in her case was, that when the proper expression of her thought was mentioned to her she could not pronounce it. She was angry if people brought her the thing she named instead of the thing she desired. Sometimes she herself discovered that she had given a wrong name to her thoughts. This complaint continued several months, after which she gradually recovered the right use of her faculty of speech. It was only in this particular point that her memory seemed defective, for Van Goens says that she conducted her household matters with as much regularity as she ever had done.

A man, aged seventy, was seized with a kind of cramp in the muscles of his mouth, accompanied with a sense of tickling upon the surface of the body, as if ants were creeping over it. After having experienced an attack of giddiness and mental confusion, a remarkable alteration in his speech was observed. He articulated easily and fluently, but made use of strange words which nobody could understand. When he spoke quickly, he pronounced numbers, and now and then he employed common words in an improper signification. He was conscious that he spoke nonsense. What he wrote was equally wrong with what he spoke. He could not write his name. The words he

wrote were those he spoke, and they were always written conformably to his manner of pronouncing them. He could not read, and yet many external objects appeared to awaken in him the idea of their presence.

The articulating movements in these cases of incipient disease of the brain are produced, Romberg remarks, like movements of locomotion, in single sounds, or in a certain series, as syllables or words, without any mental act, or even against the will of the patient. He has observed the phenomenon accompanying cerebral hemorrhage, in which the patient intends to utter a certain sound but emits a different one. A gentleman, distinguished by rank and education, once assured Romberg that of the various inconveniences and troubles following an apoplectic seizure, none were so painful as the fact of his applying wrong terms (such as water for wood, and the like) to express his meaning.

The late Dr Bright describes the case of a girl of eighteen years of age, who, in consequence of depressing mental emotions, was obliged to sigh involuntarily and very frequently. This passed into a spasm, during the continuance of which she every three seconds uttered a sound like *heigh-ho,* which she sometimes changed into *heigh.* She was only able to control the sound for a short time; if, for instance, she wanted to say a short sentence, but she was unable to combine two or three sentences without being interrupted by that exclamation.*

A patient was observed to entirely lose the memory of certain words, whilst preserving the integrity of his reasoning powers. If any expressions were used, he seized them immediately, but in conversation he was obliged to employ a paraphrase to designate the objects the names of which had escaped him. An epileptic could not pronounce spon-

* Reports of Medical Cases, vol. ii. p. 458.

taneously any words, but he repeated them, and wrote them without difficulty when they were repeated to him.

At the commencement of an attack of apoplexy, congestion, and softening, invalids are observed to lose the use of almost all the vocabulary, and only retain a knowledge of a few words, which, in their estimation, have all possible kinds of signification. When they are not understood, the patients are moody, impatient, and repeat with more or less vehemence the words they have coined. Such persons have apparent possession of their reason. This is easily recognised by the expression of their eyes, their gestures, and by the air of satisfaction which they show when one has guessed their meaning. This state often exists for a long time, even to the period of death itself.*

Dr Beddoes knew a gentleman who, previously to an attack of epilepsy, misplaced his words in a singular manner. He was constantly committing blunders of the kind in his letters, and when talking he was in the habit of substituting one word for another, bearing, however, some resemblance in sense as well as in sound. For example, he would say, "Everybody feels very languid this WET weather—I mean this HOT weather;" or, "Come, who will sit down to supper? Here is only cold meat and pudding—I mean pie."

In some types of insanity the same morbid phenomenon is observed. A lady deeply imbued with religious feelings became the subject of a severe nervous and mind affection, not, however, amounting to alienation. Occasionally, whilst in the act of repeating the Lord's Prayer, instead of saying, "Our Father which art in *Heaven*," she was obliged by an irresistible impulse to say, "Our Father which art in *Hell*." This caused her great mental agony.

* "Traité des Maladies Mentales," par le Docteur B. A. Morel. Paris, 1860.

A woman suffering from chronic softening of the brain could not speak without, at the end of three or four words, saying "*par le commandement.*" . . . . This woman exhibited this phenomenon for several years. The only symptoms of organic lesion of the brain were the doltishness of the physiognomy and torpid state of her intelligence. A woman, aged sixty-eight years, could only make incoherent sounds, always the same, and which formed the word *sinona* or *chinona.* She heard and understood perfectly well, and she answered everybody by these words, only varying the inflexion of her voice according to the idea she wished to express. The right arm was rigid and flexed, deprived of motion, and painful in its articulations. The sensibility had quite vanished in that part.

There was at the infirmary of the Salpêtrière a woman of forty years of age, quite hemiplegic, and who could only say, "*Madame été!*" . . . . "*Mon Dieu!*" . . . . "*Est-il possible?*" . . . . "*Bonjour, Madame!*" . . . . Her intelligence was perfectly preserved: she laughed at jokes which she heard, and cried when she wished to testify her thankfulness for the care that was taken of her. She pronounced perfectly the few words which she could say, and these she repeated incessantly; but, however, it was impossible for her to utter anything else.*

Irregularity, Impairment, and Loss of Speech.—Associated with the slight loss of power over the muscles of the tongue and mouth previously referred to, there is in the early stage of brain disease an inability on the part of the patient to give, with his usual clearness, perspicuity, and facility, expression to the ideas. He speaks with a *slow* and *measured* intonation, as if he were cautiously and critically selecting his phrases, and carefully considering

* "Traité du Ramollissement du Cerveau," par Max. Durand-Fardel, M.D. Paris, 1843.

what he is saying. He drawls out his words, and his voice is often *thick* and *husky*, giving rise to the impression that the patient is suffering from a bronchial affection, or has some extraneous body in the mouth, interfering with his free action of the vocal muscles. He talks with what may be termed a muffled (*voilée*), veiled, or clouded voice, as if he were slightly under the influence of stimulants or strong emotional excitement.

Slowness of speech, feebleness of voice, mistakes in accentuation, hesitation in pronunciation, and disorder in the succession of words, are phenomena of value when viewed in relation to suspected cerebral disorders. The tremor of the tongue and hesitation of speech are the most characteristic signs of general paralysis. It is almost impossible, says Morel, to mistake the embarrassed speech, symptomatic of the commencement of general paralysis, with the tremor of the tongue, which, under the impression of quick emotion, sometimes attacks persons with a very decided nervous temperament.

Occasionally, in incipient disease of the brain, the patient is observed to make repeated but ineffectual efforts to utter articulate sounds. He is seen to open and close his lips, as if trying to speak, but cannot do so. The attempt thus made produces a singular movement of the lips, similar to that seen in the action of smoking a pipe, conveying to those who have observed the phenomenon the idea of the patient having a symptom described as symptomatic of serious and fatal cerebral coma, designated by French pathologists, "*Le malade fume la pipe.*" These symptoms of failing vocal power may exist for several months before the attention is directed to them. Such morbid affections of articulation are to be found among the most insidious signs of cerebral disease.

The speech is almost constantly altered in acute soften-

ing. When this disease developes itself gradually, derangement of the pronunciation is a usual accompaniment. There is a heaviness of the tongue, which is observed to increase daily as the malady progresses. In general, when doltishness and hemiplegia have become complete, the articulation of sounds is quite impossible. This happens at the commencement of softening, when the malady is announced by a sudden loss of intelligence, accompanied with paralysis. At a later period patients usually recover the power of articulating a few words, making themselves a little understood. This obtuseness of the faculty of speech occasionally remains permanent.

Delirium or agitation, joined or not to paralysis, is accompanied sometimes with difficulty or impossibility of articulation. This gives place to the use of very curious language, in the midst of which one often distinguishes syllables or words, but as though produced at random. Sometimes patients have lost, not only the faculty of articulation, but the consciousness of the *sense of words.* They pronounce them with volubility, without order, connexion, or meaning. Usually the same words or the same phrases recur almost incessantly to the mind. Sometimes such patients speak at random. At other times they struggle as though they really wished to express an idea, but without being able to find it, or even appearing able to discover the right mode of expression.

Sometimes they appear to have lost not only the faculty of articulation, but that of uttering even a sound. Not a whine is heard to escape from them, and they live in the most absolute silence. This phenomenon does not exhibit itself exclusively among patients plunged into a state of coma.*

Loss of Speech.†—The first evidence of approaching

* *Vide* Drs Morel, Guislain, and Durand-Fardel.

† Loss of voice is occasionally dependent upon pressure or change of

apoplexy and paralysis is occasionally a sudden loss of speech. It is not an unusual circumstance for this phenomenon to exist, and it often causes anxiety as to the state of the brain.

A gentleman, aged thirty-five, while standing in the street conversing with a friend, suddenly lost his speech; he recovered it after a few minutes, walked home, and made no particular complaint of indisposition. In the evening of the same day he suddenly fell from his chair, speechless and paralytic on the right side, but without coma, being sensible of what was said to him, and answering by signs. He was then confined to bed for several weeks without any change of symptoms. At the end of three months he had recovered so far the motion of his leg as to be able to walk a little, dragging forward the leg by a motion of the whole right side of his body. He afterwards improved considerably in bodily strength, so that he could walk for several miles; but his thigh and leg continued to be dragged forward by the same kind of effort, without any further improvement. He never recovered any degree of

structure at the origin of, or in the course of the lingual and glosso-pharyngeal nerves. Dr Copland relates a case of the kind in which the aphonia preceded some months a fatal attack of apoplexy. The patient was fifty years of age. He had for many months lost all power of uttering the most simple articulate sound. He swallowed substances with great difficulty, and sometimes he was unable to do so at all, unless they were conveyed over the base of the tongue. The tongue could not be protruded, and was incapable of action. This gentleman had neither headache nor any other ailment. No other part of the body was paralysed. He attended regularly to the duties of his profession during the usual hours of business, but was obliged to write down all he wished to say.

Aphonia is, in many cases, as observed by Dr Copland, a *laryngeal affection*. In its nature and consequences it is distinct from those morbid affections of the *articulation* which so commonly are precursory of paralysis and apoplexy. The loss of voice dependent upon disease of the larynx, its tendons, muscles, and cartilages, is easily distinguished from the affection of the vocal organs symptomatic of disease of the brain. (*Vide* Dr Copland's admirable treatise on Palsy and Apoplexy.)

motion of the arm or hand; he could not even move the fingers; his speech was very inarticulate, and his countenance expressive of great imbecility. In this state he continued without relapse or any further improvement for fifteen years, when he died at the age of fifty. Dr Abercrombie saw him about four days before he died, and found him in a state resembling typhus; his pulse frequent and weak, tongue very foul and dry in the middle; he had no other complaint. He was not then in bed, but was confined to it next day, and died in three days more of rapid sinking without coma.*

A young man aged sixteen bathed twice in the month of June in the river Tweed. After coming out the second time he lay down on the bank and fell asleep, without his hat, with his head exposed to the beams of a hot sun. On awaking he was speechless, but walked home, and seemed to be otherwise in good health. He was bled and purged, and the next day recovered his speech, but lost it again at intervals several times during the three or four following days. He was forgetful, and his look was dull and heavy; he made little complaint, but when closely questioned, said he had a dull uneasiness at the back of his head. In a few days more he had squinting and double vision and a very obstinate state of bowels, and his pulse was 60. After further bleeding, the pulse rose to 86, but he gradually sank into coma, and died on the 30th.

The substance of the brain in general was found highly vascular, and a very considerable extent of it was in a state of softening mixed with suppuration. The ventricles were distended with fluid, and the membranes in many places were much thickened. One very curious circumstance (affording, perhaps, some explanation of the readiness with which the inflammation was produced) was, that the cranium

* On Diseases of the Brain, p. 261.

was of very unequal thickness at its upper part. In one spot, as big as a sixpence, it was as thin as writing-paper, and transparent.*

Loss of speech has been known to occur without any previous symptom of brain or nervous disorder; in other words, there has been no headache, vertigo, noise in the ears, loss of sensibility, depression of spirits, affection of vision, or any other symptom to excite suspicion as to the presence of any abnormal state of the structure of the brain or condition of cerebral circulation.

Dr Graves cites the following interesting illustrative case :—" A barrister was walking up and down the hall of the Four Courts waiting for a case to come on, and chatting with one friend and another. As the hall was rather crowded and hot, he went out into the area of the courts for the sake of the air, and had not remained there more than ten minutes when an old friend from the country came up and spoke to him. He was pleased to see his friend, and wished to inquire about his family, when he found to his great surprise that he could not utter a single audible sound; he had completely lost his voice. He recovered the use of his tongue in about three weeks, but not completely, for some slowness of speech remained. When the loss of speech was first perceived his friend brought him home in a carriage, and during the day he had several attacks of vertigo, and afterwards hemiplegia. For several hours, however, before distortion of the face or any of the usual symptoms of paralysis had commenced, the only existing symptom was loss of speech. This gentleman died of apoplexy in about two months."† A lady, after an attack of paralysis, lost all power of speaking, but was able to communicate in

* Dr Abercrombie " On Diseases of the Brain."

† " A System of Clinical Medicine," by R. J. Graves, M.D. Dublin, 1843. P. 688.

writing her wishes. When, however, doing so, she invariably wrote *no* when she meant *yes*, and *vice versâ*. When she wrote, "I wish you to do so," it was construed conversely. This patient, I am informed, is still living, the singular defect alluded to remaining unaltered.

The wife of an eminent Dissenting minister lost, in consequence of a cerebral affection, all knowledge of the distinction of sex, She invariably addressed men as women, and *vice versâ*.

Napoleon Joubert, aged twenty-three years, sailor, was admitted into the principal marine hospital at Toulon on the 31st October 1855, under the care of M. Reynaud.

Joubert, on the 28th April 1855, had been wounded in the trenches before Sebastopol. A ball pierced the upper portion of the forehead, a little to the left of the median line, and after passing beneath the skin for a distance of three centimètres, issued to the left of the first aperture. The projectile carried along with it a small fragment of the external table of the frontal bone, which remained adherent to the bullet.

In consequence of this wound, Joubert was for four months a patient in one of the hospitals on the Bosphorus. In the month of September he was sent to Toulon, and on his arrival there he received sick leave, which he did not avail himself of.

On the 31st October 1855 he was suddenly seized with vertigo, followed by syncope, in consequence of which he was compelled to enter the hospital again. At this time the wounds on the forehead were not cicatrised, and they were covered with fungosities, beneath which the probe encountered denuded osseous surfaces. However, a very considerable tumefaction was remarked towards the external angle of the left eye, due apparently to a lesion of the malar bone. Fistulous tracts opening beneath this point

indicated that the locality had been the seat of previous abscess.

In the night of the 31st October or 1st November the wounded man was seized with vertigo and subsequent syncope. On the evening of the 1st of November he was again attacked in a similar manner. This ended in a true epileptiform seizure. On the 2d, in the morning, he had heaviness of the head, was torpid, had difficulty in articulating words, no appetite, a regular pulse, and the bowels had not acted for twenty-four hours.

In the night the epileptic attacks recurred five times; the bowels acted abundantly from the effects of a purgative.

In the night of the 3d there were many epileptiform seizures; articulation became more and more difficult, and finally the power of speech was entirely lost.

On the morning of the 4th the patient still remained torpid; he awoke up at intervals for a few moments, but he was not able to articulate a word. In the evening there was an epileptic seizure; in the night he was calm.

In the morning of the 5th there was a brief seizure; contractions of the face and of the limbs, particularly of the right superior member; foam on the lips. As in the preceding seizure, the contractions persisted but a few moments; they terminated promptly, and the patient fell into his habitual torpor. The *mutism* continued. There was no other seizure during the day. The pulse was full and regular; the tongue a little white.

On the 6th November 1855 the comatose state of the patient was a little less profound than on preceding days; hearing persisted, because the eyes were fixed upon any one who spoke to him; but he did not appear to comprehend what was said, and he did nothing that he was commanded. He was still incapable of answering questions put to him. His attention could not be fixed, or it was very quickly

fatigued; a bottle of ammonia placed beneath the nostrils excited the pituitary membrane; the sensibility of the skin was very obtuse; a needle plunged in to the integument of the limbs occasioned scarcely any movements. Voluntary motion was abolished; when the limbs were raised they fell as if inert; the patient had only automatic movements; defecation and micturition were involuntary.

At eight o'clock A.M. it was decided to trepan. A T incision having been made in the integuments of the cranium, and the bone exposed, a medium-sized trepan was applied to the superior portion of the frontal bone, to the left of the median line, in the interval which separated the wound of entrance and the wound of exit of the ball. The osseous ferule having been raised by the elevator, there was seen a splinter of the internal table of the frontal bone. This splinter was rather more than a centimètre in diameter; it was entirely detached, exhibited the commencement of necrosis, with thinning, and compressed the dura-mater on a level with the anterior lobe of the brain. This splinter being removed, a jutting point of the frontal bone, which might have induced further mischief, was resected; after which no other detached splinters were discovered, neither any suppuration under the dura mater.

Soon after the operation the aspect of the patient became better; the physiognomy appeared more open, the eye showed more attention, and some movements of the lips were distinguished. About two hours after noon the patient responded "Yes" to the surgeon in charge, who questioned him; and about five P.M. he uttered some connected words.

On the 7th the wounds gave neither pain nor trouble; there had been no epileptic seizure since five A.M. No sleep in the night, a little agitation, disturbing dreams, some incoherent words, involuntary stools. At eight A.M. the tongue was natural, pulse full and regular, heat of the skin normal;

the patient responded by some words to questions addressed to him; he executed in part certain movements at command.

On the 8th tactile sensibility returned, the movements were more regular, but the intelligence was still sluggish; the responses were slow and confused, but there was a gradual and marked improvement. On the 13th, the eighth day after the operation, as well as on the 15th, the tenth day, he exhibited manifest signs of marked intelligence.

On the 21st, the sixteenth day, he raised himself a few moments. On the 27th, the twenty-second day, of all the functions the vision alone is still changed; the left eye cannot distinguish objects but at a little distance, and in a confused manner; the speech is precise. On the 29th a splinter was removed from the zygomatic arch. On the 16th December several small-pox pustules appeared on the arm and visage (the patient had been vaccinated). The wound was cicatrising well.

On the 28th December 1855, fifty-three days after the operation, Joubert left the hospital cured, enjoying the whole of his faculties, speaking sanely, and having no more disturbance of the vision.

This man, after some weeks' rest in the barracks, obtained sick-leave for six months. On his return, about ten months after the operation, he presented himself anew before the *conseil de santé;* his intelligence was perfectly clear, and the speech entirely free. He declared that all his functions were exercised as regularly as before the operation. He read and wrote as well as before, and a depressed cicatrix was alone visible at the point where the trepan had been applied.*

Fagan, a pipe-maker, was wounded in the head with a dragoon's sword. The skull was fractured, the membranes

* Reported by M. Lalluyeaux, "Gazette Médicale de Paris," 1857, p. 567.

wounded, and the brain protruded. On the eighth day he was attacked with convulsions, followed by stupor. A portion of the bone was removed by Hey's saw. The convulsions gradually passed away, but fungus cerebri appeared on the tenth day. In twenty-four days this had disappeared, and in eleven days after this the wound was healed. In a fortnight Fagan was discharged, and resumed his employment. He was unable to remember the names of things.

After this man was discharged he led a very irregular life, suffering after each debauch from severe pain in the head. On the 22d of August (he was discharged on the 15th May) he nearly lost all power in the right arm and hand, and the right side of the face was paralysed. On the 24th he was re-admitted.

The following statement is abridged from the hospital journal:—John Fagan, re-admitted August 24th, complaining of severe pain in the seat of the original wound; and although his head pain is not constant, the paroxysms recur several times in an hour, and last for two or three minutes; vomits occasionally; vision indistinct; pupils dilated, and very sluggish; strength and sensibility of the right arm and leg much diminished; pulse 100, soft and easily compressible; tongue clean; bowels free; memory very defective, particularly with respect to names and recent events; but the defect is not confined to the faculty of memory, as, with few exceptions, he cannot repeat proper names, but miscalls almost everything, although he can perfectly describe the use of it. He calls, for instance, a watch a gate; a book a pipe, &c.; a pipe is a word that he pronounces most frequently. It is remarkable, however, that the moment he employs a wrong word he is conscious of his mistake, and is most anxious to correct it. The cicatrix of the wound, which is six inches long, and half an inch

broad, is *raised*, particularly at its centre, above the level of the scalp. It is of a purplish red colour, tense, and shining, very painful to the touch; and at the centre, which is the softest and most prominent part, there is a strong pulsation, obviously synchronous with the radial pulse.

"26*th.*—Had several severe paroxysms of pain, accompanied with grinding of the teeth and contortions of the features, and succeeded by complete insensibility, which lasted for five or six minutes, during which time the pulse fell to fifty in a minute. Twenty leeches were applied round the cicatrix, a blister to the nape of the neck, and a cold lotion to the head; purgative pills.

"27*th.*—No return of paroxysms; pain relieved.

"28*th.*—Several paroxysms of convulsion, followed by stupor; cicatrix more tense and red, but the fluid which it covers disappears on pressure, and returns when the pressure is removed. Pulse seventy-two, and regular; tongue foul; bowels open. Continued to improve, paroxysms becoming less frequent until the 4th of September, when he had violent vomiting, followed by convulsion, after which he remained insensible for several hours. Pupils dilated; pulse fifty-four; respiration natural; a small opening was made into the prominent part of the cicatrix, and two drachms of healthy pus were discharged. The pulse immediately rose to sixty-eight; he sat up in the bed, answered questions rationally, and said he was quite free from pain.

"*Sept.* 7*th.*—Continued free from pain or convulsion; the little opening is healed, and the tumour is as large as before; a larger opening was made into it, and a small quantity (about half a drachm) of bloody serum was discharged.

"*Oct.* 9*th.*—Has had no pain or convulsion since the 4th of September, when the abscess was opened; he

appears in perfect bodily health, with the exception of some remaining weakness in the right arm and hand, and some slight confusion of vision; the cicatrix is perfectly on a level with the head, and there is no sensible pulsation in the seat of the former abscess; the mental phenomena are as before described, and are most remarkable; he speaks correctly and even fluently; describes his sensations with great clearness, but avoids all proper names. He says, for example, 'I have a great weakness and numbness here' (pointing to his shoulder), 'and along here' (drawing his finger along the arm to the palm of the hand); 'but no pain. When I sit up suddenly I don't see rightly; but I soon see as well as ever.' He counted five on his fingers, but could not say the word 'finger,' though he made many attempts to do so. He called his thumb 'friend.' When desired to say 'stirabout,' he said, and invariably says, 'butter-milk;' but was immediately conscious of his error, and said, 'I know that's not the name of it.' Sometimes the association of ideas could be traced through which he was led to the misnomer—stirabout and butter-milk being connected in the mind of every man of his class in this country—but in the greater number of instances no such association could be traced; but this should excite no surprise, as the disturbing cause, which was of sufficient force to dissociate the idea of the *name* from the *thing*, would, naturally enough, be sufficient to disorder the faculty of 'association.'" *

Dr Osborn has detailed the following remarkable illustration of the morbid phenomena of speech, which, in consequence of its importance, I make no apology for quoting *in extenso*.†

* "Dublin Quarterly Journal of Medical Science," for 1833.—A case under the care of the late Sir P. Crampton, M.D.

† Ibid., vol. iv. p. 157.

A gentleman, of about twenty-six years of age, of very considerable literary attainments, a scholar of Trinity College, and a proficient in the French, Italian, and German languages, about a year ago was residing in the country, and indulged the habit of bathing in a neighbouring lake.

One morning after bathing, while sitting at breakfast, he suddenly had an apoplectic fit. A physician was immediately sent for; the patient was bled, and after being subjected to appropriate treatment, he became sensible in about a fortnight. Although restored to the use of his intellect, he had the mortification of finding himself deprived of speech. He spoke, but what he said was quite unintelligible, although he laboured under no paralytic affection, and uttered a variety of syllables with the greatest apparent ease. When he came to Dublin, his extraordinary jargon led to his being treated as a foreigner in the hotel where he stopped; and when he went to the college to see a friend, he was unable to express his wish to the gate-porter, and succeeded only by pointing to the apartments which his friend had occupied.

Dr Osborn had ample opportunities of observing the peculiar nature of the deprivation under which the patient laboured; and the circumstance of his having received a liberal education enabled him to ascertain some peculiarities in this affection which would not otherwise have come to light. They were as follows:—

1. He perfectly comprehended every word said to him. This was proved in a variety of ways unnecessary to describe.

2. He perfectly comprehended written language. He continued to read a newspaper every day, and when examined, proved that he had a very clear recollection of all that he read. Having procured a copy of Andral's

Pathology in French, he read it with great diligence, having lately intended to embrace the medical profession.

3. He expressed his ideas in writing with considerable fluency; and when he failed, it appeared to arise merely from confusion, and not from inability, the words being orthographically correct, but sometimes not in their proper places. Latin sentences he translated accurately. He also wrote correct answers to historical questions.

4. His knowledge of arithmetic was unimpaired. He added and subtracted numbers of different denominations with uncommon readiness. He also played well at the game of draughts, which involves calculations relating to numbers and position.

5. His recollection of musical sounds could not be ascertained, not knowing the extent of his knowledge of music before the apoplectic seizure; but he remembered the tune of "God save the King," and when "Rule Britannia" was played, he pointed to the shipping in the river.

6. His power of repeating words after another person was almost confined to certain monosyllables; and in repeating the letters of the alphabet, he could never pronounce *k, q, u, v, w, x,* and *z,* although he often uttered those sounds in attempting to pronounce the other letters. The letter *i* also he was very seldom able to pronounce.

7. In order to ascertain and place on record the peculiar imperfection of language which he exhibited, Dr Osborn selected and laid before the patient the following sentence from the bye-laws of the College of Physicians, viz.:—"*It shall be in the power of the College to examine or not examine any Licentiate previous to his admission to a Fellowship, as they shall think fit.*"

Having set him to read, he read as follows:—"*An the be what in the temother of the trothotodoo to majorum or that*

emidrate ein einkrastrai mestreit to ketra totombreidei to ra fromtreido as that kekritest." The same passage was presented to him in a few days afterwards, and he then read it as follows:—"*Be mather be in the kondreit of the compestret to samtreis amtreit emtreido and temtreido mestreiterso to his eftreido tum bried rederiso of deid daf drit des trest.*"

Dr Osborn observes that there are several syllables in the above of frequent occurrence in the German language, which probably had made a strong impression on the patient's memory. But the most remarkable fact connected with the case was, that although he appeared generally to know when he spoke wrongly, yet he was unable to speak correctly notwithstanding, as is proved by the preceding specimen. He was completely free from any paralytic affection of the vocal organs.

Morbid Imitative Movements of Articulation.—I have not yet spoken of a singular affection of the imitative movements of articulation sometimes observed in the early as well as advanced stage of cerebral disease. Romberg termed it the "*echo*" sign. The patient repeats, in a monotonous tone of voice, the words and sentences spoken not only by persons near him, but by those with whom he is immediately engaged in conversation.

This symptom is often observed at the commencement of acute attacks of disease of the brain, particularly of inflammatory softening. The physician says, "Good morning;" the patient merely echoes the words. "The pulse is weak," observes the physician to an anxious bystander; "the pulse is weak," responds the invalid. "Let me see the tongue," asks the physician; "let me see the tongue," repeats the patient, at the same moment protruding it from his mouth.

"A lady," says Romberg, "who died of softening of the brain, invariably repeated my questions, as 'Show me your

tongue,' or, 'Will you lift up your arm?' without doing as she was bid. I am acquainted with an idiot eleven years of age who in this way mimics music in a remarkable manner. The same phenomenon has occurred to me in two young girls labouring under typhus fever, when the disease was at its height."

I presume the "echo" phenomenon may, to some extent, arise from that sluggish and abstracted state of thought, amounting to reverie, which is so often seen in cases of long existing and sometimes undetected affections of the brain. The mind appears incapable, under these circumstances, of apprehending the most simple questions, and, parrot-like, repeats them. I have noticed this symptom in other conditions of depressed vital and nervous power, but it more particularly accompanies softening of some portion of the brain.

Involuntary Articulation, or Thinking Aloud.—Whilst referring to the morbid phenomena of speech, it will not be out of place to direct attention to a precursory symptom, not only of approaching paralysis, but of insanity. I allude to the practice of many patients suffering from incipient brain and mind disease of talking aloud when alone. A distinguished physician observed this symptom to precede an attack of paralysis in the case of a nobleman who for many years was Prime Minister of this country.

In many conditions of irritation of the brain, as well as of structural disease, the patient is observed to talk to himself, and the commencement of insanity is often detected by this symptom. I am fully aware that this eccentric habit is quite consistent with a perfect state of health of body and mind; but nevertheless it is a symptom that should be carefully regarded in all cases of *suspected* disease of the brain coming on suddenly at an advanced

period of life, particularly if conjoined with other signs of cerebral disorder.

MORBID VOCAL PHENOMENA ACCOMPANYING INSANITY.—In some cases of insanity all power of speech appears for a considerable period to be lost. Insane patients have been known to continue for years without uttering a vocal sound. This does not arise from any paralysis of the organs of speech, although this affection sometimes exists, but it is owing to the mind being intensely absorbed or pre-occupied in the contemplation of predominant insane ideas.

A man who was for fifty-two years insane had not spoken for *thirty* years. When perseveringly interrogated, he gave a kind of grunt and ran away. About fifteen days before his death this patient recovered the use of his speech, and answered perfectly well all questions put to him.

There are certain peculiarities characteristic of the voice and speech of the insane which are occasionally recognised in the incipient stage of the malady. The voice in some cases becomes remarkably *sharp* and *shrill*. Patients in the incipient stage speak snappishly, sharply, and quickly. In other forms of insanity the voice assumes a solemn and grave character. These latter alterations are observed to precede attacks of acute melancholia. The voice undergoes very remarkable modifications, and sometimes a complete metamorphosis in the incipient stage of insanity.

M. Morel refers to a case of insanity in which the patient was subject to dangerous periodical attacks of violent homicidal delirium. His relations always knew when the maniacal crisis was about to occur from a singular alteration that took place in his voice. It had at these periods a bell-like sound. He spoke in what is designated by French pathologists, "*voix de Polichinelle*," or Punch's voice.

When alluding to the morbid vocal phenomena so often associated with insanity, Guislain observes:—

"The speech is altered from the natural tone and style; the articulation becomes embarrassed. It is not so distinct as usual, or it is clipped, or hurried, or weak, or too emphatic, or prosy, or drawling. Some words are cut short like a drunken man's, or single words are repeated hastily, or a syllable of a word is repeated, or there is a difficulty in uttering certain letters, such as T's and R's, or words requiring an emphasis, or when several consonants come together. At times the patient stammers, and seems to be at fault in finding the proper word, expletive, epithet, or phrase, which in health he was both apt and fluent in using; or, it may be that, instead of being cautious and studied in his speech, he is all of a sudden voluble, redundant, and profusely garrulous. But at other times the speech is perfectly natural in utterance and rational in what is said, and yet the patient is deeply attainted with insanity all the time. There shall not be a single unreasonable or ill-spoken word uttered. But at the same time there is a retired, reserved manner, a slinking out of sight, a refusal to speak to an old friend, or answer the queries of the medical man; an ill-temper or sulkiness, that is worse than imperfect articulation. At length he speaks with irritation: 'I know *their* designs—he is not *my* friend; he has been informed of everything. I am surrounded with freemasons, or papists, or tories, or dissenters. I know there is a God,' &c. &c. Such a person is still insane in spite of his good articulation."

CHAPTER XX.

MORBID PHENOMENA OF SENSATION.

THE sensibility is very frequently affected in organic disease of the brain, and exalted, depressed, or perverted states of this important function are to be found among the early and premonitory symptoms of all cerebral affections. The sensation may be—

α. *Exalted.*
β. *Impaired or lost.*
γ. *Vitiated.*

HYPERÆSTHESIA, OR EXALTATION OF SENSATION.—In many affections of the nervous system unconnected with organic disease of the brain, the sensibility exhibits great acuteness; and to such a degree is this state of morbid exaltation occasionally witnessed, that the slightest touch of the skin, or puff of cold air, has been known to throw the patient into a paroxysm of convulsive agony. In hydrophobia this condition of acute sensibility is observed, perhaps, in its highest degree of development, and it is frequently seen for some time after death has apparently taken place.

In these cases, such is the morbid peripheral acuteness of sensibility, that the minimum portion of cold wind, or even the faintest breath of air from the mouth, coming in contact with the cutaneous surface of the hydrophobic

patient, has often induced a fearful paroxysm of spasmodic suffering. In cases of acute visceral inflammation involving some of the ganglia of the great sympathetic, the general sensibility has become keenly acute. In certain hysterical affections of women the sensation is often intensely manifested. To such a degree has this hyperæsthesia been observed, that patients have been known to scream violently when the skin has been only touched. The faintest whisper, suddenly opening the door, or rustle of a newspaper, has been known, in such states of the nervous system, to induce severe conditions of violent convulsive spasm. It is difficult satisfactorily to explain the nature of this exquisite sensibility, but as described here, it is frequently observed.

Occasionally in the incipient stage of inflammation of the brain there is an exalted condition of sensation. The same phenomenon is apparent in cases of cerebral tumours interfering with functions of the corpora restiformia, pons varolii, processus cerebelli, and corpora quadrigemina. An increase of sensibility, both special and general, has been frequently observed in diffused neuralgic conditions, but when connected with persistent or even violent paroxysmal attacks of headache, and associated with morbid mental conditions, it should always command attention.

Spinal softening is often connected with a profound pain occupying the depth of the limb, or following the course of the great nervous trunks. Exalted sensibility is, as Andral observes, liable to be mistaken for neuralgia. In other cases those pains do not exist. The limb is merely benumbed, the extreme parts are cold and less sensible than they should be. The patient, says Andral, treats these incipient symptoms with neglect, but the disease marches on, the *engourdissement* and insensibility gradually increase, and then paralysis ensues. Andral refers to the particulars of a case in which the chief symptom for two consecutive

months was nothing more than a sensation of cold—of intense cold—occupying the extremities of the fingers and toes. This symptom continued without any change for eight weeks. It was suddenly changed to a pricking kind of feeling in the same part. After a short time, the extremities were seized with a brusque convulsive movement, "des mouvements saccadés." These latter symptoms continued to progress until followed by characteristic signs of spinal softening.

Hyperæsthesia of the special sensory ganglia will be more particularly referred to when I proceed to a consideration of exaltations of special sensibility, viz.:—

α. *Vision.*
β. *Hearing.*
γ. *Taste.*
δ. *Touch.*
ε. *Smell.*

Epileptic Vertigo.—The various types of vertigo are—1. When the body appears to move backwards and forwards; 2. In which the movement seems to be on one side; 3. When the illusory sensation is rotatory. It is not my intention to consider in detail these various phases of vertiginous sensation.

In affections of the brain, the sensation of illusory movements, termed vertigo, or giddiness, is prominent among the incipient symptoms. In some respects it is more characteristic of serious cerebral disease, organic and functional, than even in the more acute forms of headache. If the vertigo be clearly a primary affection of the brain, and not symptomatic of some form of stomach, heart, hepatic, visceral, renal, or blood disease, it may be inferred that the state of the head is entitled to careful analysis.

This phase of disordered sensibility, if it does not arise

from the previously-mentioned causes, but is the effect of poisoned blood, retained excretions, or toxic agents in the system, generally indicates serious disturbance of the circulation within the cranium, and is frequently dependent upon a want of normal balance in the amount of blood distributed to the various sinuses as well as to the venous and arterial cerebral vessels.

Cerebral vertigo is easily recognised by the absence of those affections of other organs which sympathetically disorder the brain, such as gastric, renal, and hepatic derangement, loss of blood, and long-continued, exhausting discharges.*

* "Vertigo, or giddiness, though unattended with pain, is in general of a more dangerous nature than the severest headache. Vertigo consists in a disturbance of the *voluntary power*, and in some degree of *sensation*, especially of *vision;* and thus it shows itself to be an affection of the brain itself; while mere pain in the head does not necessarily imply this, it being for the most part an affection of the membranes only. In *vertigo*, objects that are fixed appear to be in motion, or to turn round, as the name implies. The patient loses his balance, and is inclined to fall down. It often is followed immediately by severe headache. *Vertigo* is apt to recur, and thus often becomes frequent and habitual. After a time the mental powers become impaired, and complete idiocy often follows, as was the case in the celebrated Dean Swift. It frequently terminates in apoplexy or palsy, from the extension of disease in the brain.

"Vertigo is induced by whatever is capable of disturbing suddenly the circulation of the brain, whether in the way of increase or diminution; thus the approach of *syncope*, whether produced by loss of blood or a feeling of nausea; blows on the head, occasioning a concussion of the brain; stooping, swinging, whirling, or other unusual motions of the body, as in sailing, are the ordinary exciting causes of the disease. *Vertigo* is exceedingly frequent at an advanced period of life, and generally indicates the approach and formation of disease in the brain. Accordingly, it is a frequent forerunner of *apoplexy* and *palsy*.

"The immediate or *proximate* cause of giddiness, or vertigo—that is, the actual condition of the brain at the moment—is probably some partial disturbance in the circulation there, which all the *occasional causes* mentioned are obviously calculated to produce. It is more or less dangerous, according to the cause inducing it, and the state of the brain

The most important form of vertigo is undoubtedly that associated with obscure types of epilepsy, and it is to this form of neurosis of sensibility I wish to direct special attention.

The type of epilepsy termed *Petit-mal* is observed, at all periods of life, in various degrees of severity. It is a common affection of childhood, and often, before its existence is suspected, fatally damages the bodily health and undermines the intelligence. Much of the defective and enfeebled intellect observed among children, associated with great disorder of the general health and impaired vital nerve and mental force, arises from this subtle, mischievous, and often undetected phase of epilepsy.

In many cases, particularly in adults, attacks of *pseudo* epilepsy are unassociated with any form of convulsive action. They exhibit themselves at all periods of the day, and in all possible positions of the body. The fit may occur in the middle of the night, during the transition state between sleeping and waking, early in the morning on first rising, during meals, whilst engaged in conversation, and often when walking in the streets. The patient, for a second or two, and occasionally for a longer period, is seized with severe vertigo, and (but this does not invariably occur) momentarily loses his consciousness. This subtle form of

itself, which may be sound or otherwise. And as this cannot be certainly known, nor the extent of it when actually present, the event is of course uncertain. At all times your *prognosis* should be guarded; because *vertigo* seldom occurs under favourable circumstances of age and general health; unless when produced by so slight a cause as *bloodletting* or a trifling blow upon the head. Whenever *vertigo* recurs frequently, and at an advanced period of life, and more particularly when it is accompanied with drowsiness, weakness of the voluntary muscles, impaired memory or judgment, or, in short, any other disturbance or imperfection in the state of the *sensory* functions, an unfavourable result is to be expected, because all these afford decisive evidence of a considerable degree and extent of disease in the brain."—*Dr Clutterbuck.*

epilepsy often developes itself whilst the patient is actively engaged in his accustomed vocation. Clergymen are attacked whilst preaching in the pulpit, merchants when engaged at the desk or on the stock exchange, barristers whilst addressing courts of law. In many cases the malady may be traced back for some years, manifesting itself under all conceivable physical and mental conditions. This affection is rarely considered of an important character until the bodily health and mental condition begin to be affected. It is then discovered that the patient has been subject for a long time to undetected and unobserved epileptic vertigo, which has been considered symptomatic of a disordered state of the stomach and liver, or as ordinary attacks of syncope.

"It is scarcely possible," says Trousseau, "to describe these epileptic attacks except by examples. In childhood, when it is especially common, it may manifest itself thus: The child stops short in the middle of its play, remains motionless, with fixed eye and suspended respiration, returning to itself after seven or eight seconds, and sometimes hardly two. We may observe analogous examples in the adult. A person, while playing at cards, finds the movement of his hand suddenly arrested when about to play, the card remaining in his hand as if affixed to it. A deep inspiration occurs, the suspended movement is completed, and the vertigo has passed away. At other times the patient rises, walks he knows not where, striking against objects, and stops short at the instant he returns to himself. At others he mumbles some unintelligible words, or repeats the same word, as his own name, obstinately, during seven or eight seconds. In all these cases the individual is completely without the external world. Sensation is abolished, and we may shake or pinch him without his feeling anything. In certain cases, as in a patient now in the wards, the vertigo is announced by a peculiar sensation to which

authors have given the name of *aura*, and which, in the great majority of cases, consists in the feeling of a current, that mounts up from one of the limbs, or some other point of the surface, towards the head. At other times there is a sensation of pain, of formication, or of little imperceptible convulsive shocks. In a great number of cases these phenomena constitute the entire affection, and deserve the name of epileptic vertigo. At others they go on increasing until the fit itself occurs, and then it is usually by the thumb that the aura commences. But the fit is only preceded by the aura quite exceptionally."

A child, five years of age, was brought for M. Trousseau's advice. Several times a week, and more than once a day, the child became the subject of hiccough, which, accompanied by remarkable paleness, lasted for several seconds, and never more than a minute, headache and hebetude succeeding. M. Trousseau, alone in his opinion, pronounced this epilepsy, and a year after the child had regular epileptic fits. "At other times," says the same authority, "epilepsy manifests itself by a marked sensation of cardiac suffocation. The patient, seized with most violent palpitations, becomes extremely pale, and loses all consciousness. In ordinary palpitation consciousness is always preserved, and it is well to be aware of these palpitations in the epileptic, since, the patient complaining only of his heart, an erroneous idea of the nature of the disease may be easily formed.

"Disturbances of the intellect are very frequent after the epileptic fit, and they are also met with subsequent to the vertigo. The head is heavy and aching, the patient being morose and taciturn, and as if stupefied for a while—for a half or whole hour. For the purpose of diagnosis it is of extreme importance to observe these changes; for we find them as a consequence of no other nervous spasm, however violent it may have been. There may be exhaustion after

a violent fit of hysteria, but the intellect always remains very clear. This relative confusion of the mental powers may escape the physician's attention, but it is very rare for it to escape that of the patient or his relatives, so that they should be always interrogated upon this point.

"There is nothing special in the vertiginous form, as it depends upon the same causes as the fit; and very often we observe alternations of the vertigo and the fits in the same subject. It is by no means rare, however, to find, after from one to ten years' time, the fits entirely displace the vertigo."

There is no type of epilepsy so fearfully and fatally destructive to the intelligence as the one previously described. It is generally associated with obscure and not easily detected or defined changes in the cerebral tissue. These pathological alterations are more particularly detected in the advanced stage of the affection. Hence the grave importance of an early recognition of this subtle and insidious form of vertigo, and the necessity for a speedy administration of remedies for its cure.

HEADACHE.—This type of hyperæsthesia of the brain will be considered more in detail when I address myself to an analysis of the general principles of diagnosis. All organic diseases of the brain are accompanied by vertigo, headache, acute or chronic, or by some abnormal physical sensation within the cranium. Cephalalgia, however, may be considered as an almost invariable accompaniment of cerebral affections. It is rarely absent, particularly in the early or acute stage. In some forms of tumour, and in obscure alterations of nerve-tissue connected with general paralysis, the patient often denies that he has headache, or was ever subject to it. I have, however, after minute inquiry, generally ascertained that pains in the head have existed, but been forgotten by the patient, arising in many

instances from an impairment of the faculty of attention and loss of memory. In cases of advanced general paralysis and chronic softening of the brain, the patient stoutly maintains that he is quite free from all headache, and will not admit that he suffers from vertigo or any description of uneasiness within the cranium, but his actions clearly demonstrate that there exists an hyperæsthesia of the brain.

"With the exception of atrophy," says Romberg, "none of the diseases of the brain occur unaccompanied by headache." Nasse affirms that pain of the head is one of the most constant symptoms associated with cerebral tumours. It always exists, particularly in central softening of the brain involving the corpus callosum, septum lucidum, fornix, and the ventricular parieties. Dr Todd says that disease of the corpus striatum and optic thalamus is attended with little or no localised pain pointing out the exact seat of the lesion.

In abscess of the brain, headache, paroxysmal in its character, is rarely absent. In the affections of this organ consequent upon chronic otorrhœa, the same symptom is generally present. Apoplexy is almost invariably preceded by either severe vertigo, noises of some kind in the head, confusion of intellect, or severe paroxysms of cephalalgia. In cerebral hemorrhage, the patient often complains, immediately prior to the attack, of a feeling in the head giving rise to the impression that an actual laceration of the cerebral substance has taken place.

Physical sensations of uneasiness in the head do not always denote the character or position of the cerebral lesion. It may accompany the most varied morbid conditions of the contents of the cranium and its bones, as well as be the effect of a congested state of the membranes of the brain, formation of concretions on the surface of the

arachnoid, purulent infiltration of the pia mater, and effusion of pus or serum into the ventricles.

Headache is not apparently present in all affections of the brain. Cases undoubtedly occur where no complaint is made of this symptom, but it would be unsafe to infer from its repudiation that it has not, at any stage of the disease, existed. I have never carefully examined a case of clearly-developed organic disease of the brain without having assured myself that vertigo, headache, or some form of disordered cerebral sensation, pain, or uneasiness has not been referred to.

ANÆSTHESIA, or loss of sensation, is more closely connected with certain morbid cerebral states than the condition previously referred to. These lesions of sensibility occur occasionally a few days or hours before acute attacks of brain disease; sometimes, however, the loss of sensation has been noticed to exist for years prior to the development of active cerebral symptoms. This impairment of sensation is often most obscure in its origin, as well as insidious in its progress. For some time before the patient complains of any diminution of sensibility he is conscious of the cutaneous surface of some part of his body being in an abnormal state. He is observed to be rubbing his hands, arms, legs, or scalp, for the purpose of giving activity to the circulation of the blood in these parts. The sensation at this period is simply that of numbness in its first or earliest stage of manifestation. The patient recognises this symptom, and eventually directs attention to it.*

* "When we read the history of trials for witchcraft," says Dr Michéa, "we observe that the inquisitors attached a high value to the existence of *cutaneous anæsthesia* as a sign of demoniacal possession. When an individual was charged with the alleged crime, the experts, after having bandaged the eyes, passed a magnifying glass over all parts of his body, previously shaved, with a view of discovering the mark of Satan (*'stigmata diaboli'*). The slightest spot on the skin was probed with a

The conjunctiva occasionally exhibits, in the early stage of disease of the brain, a remarkable state of insensibility. Under these circumstances, the end of the finger may be passed over the entire surface of the globe of the eye without causing any irritation in the part sufficient to produce even an approximation of the eyelids. The patients manifest no sign of pain or sensibility of the eyes even when there is no diminution of sensation in other parts of the body.

In some apoplectic cases there has been observed a decided impairment of sensation in one-half of the mucous membrane of the nasal fossæ. In some cases, prior to an attack of acute disease of the brain, there is loss of sensibility on one side of the mouth. This symptom is apparent when the patients are taking food.

Andral relates a case of apoplexy in which a complete loss of sensation was observed some time previously to the attack in isolated parts of the thorax. There existed five or six portions of skin, about the size of a five-shilling piece each, which showed no signs of sensibility even when pinched or pricked with a sharp instrument. In other parts of the thorax the sensibility of the skin continued intact. These circumscribed states of cutaneous sensibility were not continuous in their manifestation, sensibility and insensibility appearing to be alternate conditions.

Decided loss of sensation is frequently preceded, in some cases for many years, by states of numbness, which are considered unimportant, and, in fact, in many cases, are altogether neglected. Slight degrees of cutaneous anæsthesia have existed for many years previously to fatal attacks of

needle. If the puncture did not cause a painful sensation, if it provoked no cry or movement, the poor creature was a sorcerer, and condemned to be burnt alive. If, on the contrary, he felt the wound, he was acquitted: Satan had not impressed his claw upon him."—*P. Gray*, "Chirurgia," 1609, lib. vii. c. 10.

apoplexy and paralysis. In some instances this diminution of sensibility has been associated with a feeling of intense cold in one of the extremities. Andral, Romberg, and other pathologists, have noticed this incipient symptom of apoplexy, paralysis, and softening.

Among the premonitory signs of cerebral hemorrhage Andral observes odd sensations, resembling a feeling of intense cold, confined to the tips of the fingers. "The ends of the fingers," he says, "appear as if they had been plunged into iced water." Dr Cooke refers to a case of apoplexy where the patient complained, some weeks before the attack, of a painful sensation of cold in one of the feet. There was no apparent diminution of sensibility in the leg nor any other part of the body. In other cases the anæsthesia has been confined to a side of the face, one of the fingers, to the scalp, and in some remarkable cases the feeling of numbness has been restricted altogether to a lateral half of one of the fingers.

These circumscribed states of impaired sensation are often valuable signs of the commencement of softening of the brain, particularly when the feeling of defective sensibility is limited to one side of the body, and there exists, in association with it, vertigo, headache, impairment, or confusion of mind.

Among the incipient symptoms of acute diseases of the brain there is observed in some cases an impaired state of the function of taste, consequent upon a loss of sensibility in the tongue as well as fauces. In some cases the defect of sensation is confined to one lateral half of the tongue.

This morbid state of the nervous system is occasionally detected by a sensation, not of numbness or loss of sensibility, but of *weight* and *heaviness* in the affected part. The patient will be heard to complain of one leg, arm, or the side of the body being heavier than the other. This

premonitory symptom is observed in several cases of acute as well as chronic disease of the brain. It is occasionally associated with a sensation of stiffness in the limbs and joints, as well as with spasmodic muscular contraction, deep-seated pain, and coldness. Durand Fardel refers to these symptoms when speaking of the incipient stage of cerebral softening. He remarks that they are, particularly the deep-seated pains in the limbs, significant of the commencement of *chronic* softening of the brain.

Much has been written on the subject of the insensibility of the insane, with the view of establishing that it exists in the majority of cases of mental disease. Such an opinion could only have been expressed by writers practically unacquainted with the ordinary phenomena of insanity. The insane, as a general rule, are not reduced to a condition of anæsthesia. In many cases the insensibility, *psychical* as well as *physical*, is acutely and painfully present.

Impairment of sensibility is undoubtedly one of the characteristics of certain types and stages of insanity. This state admits of *psychical* as well as *physical* explanation. In many cases the diseases of the brain causing insanity induces paralysis throughout the whole course of the nerves of sensation; consequently their special function is weakened, benumbed, or entirely paralysed. This condition is observed in various degrees of manifestation, in proportion to the nature of the mental alienation, and degree of the cerebral organic change. In the early stage of general paralysis this phenomenon is well marked. It is observed in many cases long before it is suspected.

Deficient sensibility is occasionally seen in many types of disease of the brain previously to a loss of motor power. Such patients are not ordinarily susceptible to the influence of marked alternations of temperature. They have been known to wander about during severely cold nights in a

state of nudity, without exhibiting the slightest physical pain, discomfort, or uneasiness, and to resist, when in bed, the application of the bed-clothes. Occasionally it is necessary for their protection to mechanically fix the blankets to the bed-posts; but this is often resisted, even in very cold weather. This state of insensibility prevails throughout the whole of the body, internally as well as externally.

The mucous membrane of the stomach and intestines participates in their loss of sensation. The peristaltic action of the intestines either altogether ceases, or is considerably impaired. All the organic functions of animal life are altered in tone and vigour. Hence large and active doses of cathartic medicine produce no salutary stimulating effect upon the lining membrane of the bowels; and opium, in heroic proportions, is administered without in the slightest degree influencing the brain or nervous system. In these cases there is a sluggish state of mind and body, mental and physical *stimuli* making no impression upon either.

The insensibility of the insane is occasionally so great, that instances have occurred in which patients in asylums, with comminuted fractures of the lower extremities, have torn off the bandages and splints, and tried to walk with their broken limbs, without betraying the slightest feeling of pain. Others have with broken ribs sung and danced, apparently free from the slightest sign of suffering. Lunatics who have been operated on for hernia have introduced their fingers into the wounds, and in the coolest manner amused themselves by pulling out their intestines, as if they were manœuvring on a dead body.*

* Lunatics were formerly known as "Abraham-men," and being generally despised and shunned, under the notion of being demoniacally possessed, they had to satisfy the cravings of hunger by appealing to the

A patient some years ago attempted suicide in the most determined manner. He watched his opportunity, whilst the attendants were out of the ward, and then went and deliberately laid the back of his head upon the fire, and held it there, without flinching or apparent suffering, until

charity of others. They pretended to have lost all sensation of pain, and allowed themselves to be pricked by pins, and to be cut, affirming that they were totally insensible to all kinds of physical suffering. It was alleged by a writer of that period that "their skin was quite benumbed, and that they did not feel any inconvenience from punctures, blisters, or setons."

In Decker's "Bellman of London" an allusion is made to the beggars of that time who imitated the "Abraham-men" for the purpose of exciting public sympathy, and thus extorting money. Referring to one of these vagrants, or "sham Abrahams," as they were designated, it is said: "He swears he hath been in Bedlam, and will talk frantically of purpose; you see pins stuck in sundry places of his naked flesh, especially in his arms, which pain he gladly puts himself to (being indeed no torment at all, his skin is either so dead with some foul disease, or so hardened with weather), only to make you believe that he is out of his wits."

"We meet," says a celebrated critical writer on Jewish customs, "with maniacs in the synagogues or places of religious worship—in towns and cities, where they are allowed to ramble about uncontrolled. Being thought to be inhabited by demons, they were esteemed sacred persons, and regarded with religious awe and reverence."

Shakespeare has faithfully portrayed not only feigned insanity, but the social state of madmen at the period referred to:—

> "*Edgar.* While I may 'scape,
> I will preserve myself; and am bethought
> To take the basest and most poorest shape
> That ever penury, in contempt of man,
> Brought near to beast. My face I'll grime with filth;
> Blanket my loins; elf all my hair in knots;
> And with presented nakedness outface
> The winds and persecutions of the sky.
> The country gives me proof and precedent
> Of Bedlam beggars, who, with roaring voices,
> Strike in their numb'd and mortified bare arms
> Pins, wooden pricks, nails, sprigs of rosemary;
> And with this horrible object, from low farms,
> Poor pelting villages, sheepcotes, and mills,
> Sometime with lunatic bans, sometime with prayers,
> Inforce their charity."

"Who gives anything to poor Tom?" says the pretended demoniac,

a large portion of the scalp was burnt away. Very extensive sloughing and exfoliation of the bone ensued. The patient recovered from the effects of the injury without appearing to suffer any particular pain, and lived twelve or thirteen years afterwards. His skull, in the museum, St Bartholomew's Hospital, shows the whole of the parietal bones exfoliated. The brain was protected by a tough dense membrane stretched across the opening.*

An insane gentleman, aged thirty-two, suffering from suicidal melancholia, succeeded during the temporary absence of the servant who was employed to watch him in thrusting his foot into a bright blazing fire. He voluntarily held it in this position until the flesh was nearly burnt to the bone. He was never heard to complain of a sensation of pain until he recovered from his mental disorder. He then alleged he felt great uneasiness in the injured limb.

A French soldier became insane from the effects of a *coup-de-soleil* during the Peninsular war. In a paroxysm of delirium he obtained access to the kitchen of the hospital, seized hold of a vessel that was on the fire, and drank at a draught about a pint of boiling water. He then quietly returned to bed without complaining of the slightest pain or discomfort.

Insane patients have been known to expose themselves to the severest degrees of cold in the depth of winter without apparent suffering. Lunatics influenced by certain delusions have scooped out the eyes, cut away the tongue, and even emasculated themselves, without exhibiting any

" whom the foul fiend hath led through fire and through flame, through ford and whirlpool, over bog and quagmire; that hath laid knives under his pillow and halters iu his pew; set ratsbane by his porridge; made him proud of heart to ride on a bay trotting horse over four-inched bridges, to course his own shadow for a traitor."

* " Lectures on Insanity," by Sir A. Morison, M.D.

consciousness or evidence of pain. An insane woman deliberately put her hand in the fire, and held it there until it nearly dropped from the wrist, without feeling (as she said) any sensation. She laughed at the idea of the suggestion made to her that she must have undergone great torture whilst voluntarily holding her hand in the burning flame.

A woman became insane, and was sent to the Salpêtrière. She would not lie down in bed till she had drenched it with a bucketful of water. Pinel mentions the case of a man confined in the Bicêtre, who in the depth of winter, when the thermometer stood at twenty, twenty-five, and even thirty degrees below freezing-point, had such a sensation of heat in his system that he could not bear a single blanket, but remained seated all night on the frozen pavement of his cell, and scarcely was the door open in the morning, when he ran out in his shirt and applied quantities of snow to his chest, and allowed it to melt, with a delight like that experienced by persons when breathing cool air in the dog-days.

A deranged person ate and drank heartily to the last day of his life; he died during a violent paroxysm of asthma. Upon examination after death it was found there was a most extensive ulceration of the stomach. The disorganisation had advanced to a striking extent without its having apparently had the slightest effect upon the sensibility of the patient.

In speaking of the anæsthesia of the insane, Dr Browne says:—"This torpidity of the nervous system is chiefly manifested in melancholic females. Suicide and self-mutilation of the most cruel and appalling kinds have been practised; the religious fanatics, called the Convulsionaires of St Medard, bore with pleasure and relief to the hysteric ecstasy into which they were thrown the infliction of every species of torture. Cases occur in every asylum

of complete anæsthesia, in which operations have been performed and pain induced therapeutically by blisters, cupping, &c., and no cry or confession of uneasiness been elicited; where diseases attended by suffering, even by excruciating agony, have advanced to a fatal issue unnoticed, perhaps unknown to the victim; showing that even the ganglionic feeling which is exalted in many other examples of melancholia is here suspended or impaired. There is among the melancholic patients a case of experimental suicide who has tried upon his own person various means to extinguish life, partly to determine the comparative merits of the different physical modes of escaping from moral disquietude, and who was only prevented from accomplishing his purpose by strangulation with his own hands in consequence of the loss of consciousness."

This destruction of sensibility is most frequently observed among the class of the insane termed monomaniacs. A woman seriously mutilated herself by grinding into powder with her teeth a quantity of glass. She appeared to suffer no pain. Esquirol observes that he has applied blisters, setons, moxas, and actual cautery to patients strongly disposed to suicide, with a view of testing their sensibility, but has not been able to produce a sensation of pain. A woman suffering from religious delirium injured herself very severely. She only expressed one single regret, viz., that of not having succeeded in destroying herself. A young lunatic, a prey to religious exaltation, steeped his arm in boiling water. He never ceased during this paroxysm of delirium in singing loudly the praises of God. He appeared quite insensible to pain. The injury was followed by enormous suppuration. His skin fell into shreds, leaving the bones almost bare. The physical wound appeared for the time to master and overpower the delirium,

and the patient then suffered acutely from the self-inflicted injury. His mind at this time was exclusively absorbed with the idea of undergoing the amputation of the arm, which the surgeon considered necessary to perform for the safety of his life.*

In many cases of insanity incurable and fatal structural disease has progressed unobserved, owing to the presence of vital nervous insensibility. The lungs, stomach, liver, kidneys, heart, bladder, and intestines have occasionally exhibited after death serious lesions, the existence of which was never suspected during the life of the patient. Organic structures appear in insanity to undergo important and often unobserved material modifications; hence the grave necessity of watching closely the pathological state of the insane, with the view of detecting at the earliest possible period the presence of certain physical complications often seriously interfering with the recovery of the patient and proving perilous to life.

Patients suffering from active inflammation of the pleura as well as lungs have repudiated all idea of indisposition. A gentleman who had a large calculus in his bladder declared that it gave him no kind of uneasiness. Had he been sane, exhibiting an abnormal degree of sensibility, I am satisfied his agony would have been intense. I have witnessed operations of a very painful character performed upon the insane without giving rise to any apparent disturbance of their sensibility.

Anæsthesia of the insane occasionally results from the pre-occupation or intense absorption of the imagination, in some fearful mental hallucination or all-engrossing monomaniacal illusion of the senses. Much of the apparent physical insensibility of the insane arises from this cause.

* "Traité des Maladies Mentales," par le Docteur B. A. Morel. Paris, 1860.

Insanity often effectually masks all evidence of organic sensibility by effectually paralysing the functions of the sensor nerves.

When Lear, Kent, and the Fool are standing alone on the wild heath, exposed to the raging of the pitiless storm, Kent affectionately and feelingly implores the king to seek shelter in an adjoining hovel from the "tyranny of the open night." In answer to this appeal, Lear exclaims—

> "Thou think'st 'tis much, that this contentious storm
> Invades us to the skin: so 'tis to thee;
> But where the greater malady is fixed,
> The lesser is scarce felt;
> . . . . . THE TEMPEST IN MY MIND
> DOTH FROM MY SENSES TAKE ALL FEELING ELSE
> SAVE WHAT BEATS THERE."

Analogous psychical as well as physical phenomena are exhibited in certain morbid exaltations of the conscience in connexion with the religious and superstitious observances of barbarous and uncivilised nations. Persons have been known, after having excited themselves to the highest pitch of enthusiastic ecstasy, to burn, cut, and maim their bodies in the severest possible manner, without exhibiting the slightest symptom of sensibility.*

* Mr Catlin in his "Notes on the North American Indians," vol. ii. p. 170, refers (and the facts he records afford a good illustration of the effects of intense mental pre-occupation in blunting the sensibility), to the self-imposed tortures of the Mandan Indians for the purpose of qualifying themselves for the honoured rank of warriors. "One at a time of the young fellows already emaciated with fasting, and thirsting, and waking, for nearly four days and nights, advanced from the side of the lodge and placed himself on his hands and feet, or otherwise, as best adapted for the performance of the operation, where he submitted to the cruelties in the following manner:—One inch or more of the flesh of each shoulder was taken up between the finger and thumb by the man who held the knife in his right hand, and the knife, which had been ground sharp at both edges and then hacked and notched with the blade of another, to make it produce as much pain as possible, was forced through the flesh below the fingers, and being withdrawn, was followed by a splint or skewer from the

VITIATED SENSATION.—In the incipient stage of various forms of cerebral disease, the sensibility is not only heightened, impaired, and paralysed, but it becomes vitiated. The patient complains of the existence of pricking sensations in various parts of the body, as well as of formication, particularly at the extremities of the fingers and toes. For some time previously to the development of well-marked symptoms of cerebral disease, a patient remarked that everything he handled was extremely cold. In some cases a gritty body, like that of sand and a piece of cloth, appeared to be interposed between the patient's fingers and whatever they came in contact with. Other invalids have affirmed that whatever they touched felt like a piece of *velvet.* Andral notices this phenomenon. He terms it the "*velvet-like sensation*" accompanying the alterations of sensation preceding attacks of paralysis and softening.

other, who held a bundle of such in his left hand, and was ready to force them through the wound. There were then two cords lowered down from the top of the lodge, which were fastened to these splints or skewers, and they instantly began to haul him up: he was thus raised until his body was just suspended from the ground, where he rested until the knife and a splint were passed through the flesh or integuments in a similar manner on each arm below the shoulder, below the elbow, on the thighs, and below the knees. In some instances they remained in a reclining posture on the ground until this painful operation was finished, which was performed in all instances exactly on the same parts of the bodies and limbs, and which, in its progress, occupied some five or six minutes.

"Each one was then instantly raised with the cords, until the weight of his body was suspended by them, and then, while the blood was streaming down their limbs, the bystanders hung upon the splints each man's appropriate shield, bow, quiver, &c., and in many instances the skull of a buffalo, with the horns on it, was attached to each lower arm and each lower leg, for the purpose, probably, of preventing, by their great weight, the struggling which might otherwise take place to their disadvantage whilst they were hung up. When these things were all adjusted, each one was raised higher by the cords, until these weights all swung clear from the ground. . . . The unflinching fortitude with which every one of them bore this part of the torture surpassed credibility."

CHAPTER XXI.

MORBID PHENOMENA OF THE SPECIAL SENSES.

THIS subject will be considered in the following order :—

α. *Sight.*
β. *Hearing.*
γ. *Taste.*
δ. *Touch.*
ε. *Smell.*

In estimating the value of morbid conditions of the special senses supposed to be symptomatic of brain disease, we must carefully consider their normal state, making proper deductions for any previously-existing idiosyncrasy in their mode of action. The senses of vision and hearing are occasionally seen extraordinarily acute. There have been individuals in whom the sense of smell and taste was so exquisitely developed that certain substances and odours produced a severe degree of mental torture when brought in contact with the palate and nose. The slightest particle of ipecacuanha has caused violent vomiting in certain nervous temperaments. In other instances the smell of rhubarb has produced a severe action upon the bowels; and the faintest odour of aloes has affected, in a marked manner, the lower intestine. It is literally true that a person may

"Die of a rose in aromatic pain."

We occasionally observe unnatural and exquisite conditions of the sense of seeing, hearing, touch, and taste, existing independently of disease of the brain. In some persons the sense of hearing is so exalted that the slightest sound coming from remote distances is distinctly perceptible. Celebrated musicians, owing to the natural vigour and acuteness of the sense of hearing, and the careful education and long-continued exercise of this faculty, have had this special sense in a high state of activity. Mozart, during the performance of a most complicated piece of concerted music, was able, among several hundred musicians, to detect, with wonderful precision and quickness, the slightest deviation from the correct score. He was able also to name the instrument that was at fault. Any aberration of harmony produced the most painful sensations in the nervous system of this highly-gifted musician.

Among blind persons is often noticed an extraordinary capacity of recognising objects by the sense of touch. A person who became blind at an early period of life was able to distinguish individually, by means of the touch, a number of botanical plants, and to single them out with wonderful accuracy. We occasionally witness, as the effects of certain diseases, particularly of the nervous system, a great acuteness in the capacity of the special senses, as well as positive perversion in their modes of action.

Instances are recorded in which the senses of hearing and smell have become painfully sensitive after recovery from attacks of fever, conditions of nervous debility, and exhaustion. In other cases the various special senses have been perverted, or their functions either diminished in power or entirely lost.

"A man, about forty years old, had, in the spring, a tertian fever, for which he took too small a quantity of bark, so that the returns of it were weakened without being

removed. Three days after his last fit, being then employed on board a ship in the river, he observed, at sun-setting, that all objects began to look blue, which blueness gradually thickened into a cloud; and not long after, he became so blind as hardly to perceive the light of a candle. The next morning, about sun-rising, his sight was restored as perfectly as ever. When the next night came on he lost his sight again in the same manner, and this continued for twelve days and nights. He then came ashore, where the disorder of his eyes gradually abated, and in three days was entirely gone. A month after, he went on board another ship, and after three days' stay in it the night blindness returned as before, and lasted all the time of his remaining in the ship, which was nine nights. He then left the ship, and his blindness did not return while he was upon land. Some little time afterwards he went into another ship, in which he continued for ten days, during which time the blindness returned only two nights, and never afterwards."* It appears, however, that this individual had previously laboured under an affection produced by the use of lead, which had left him in a state of much nervous debility. Notwithstanding this circumstance, this case clearly proves that the affection is liable to be increased and brought on by local influences.

A lady of advanced age lodged on the eastern coast of Kent, in a house that looked immediately upon the sea, and exposed to the glare of the morning sun. The curtains of her room were white, a circumstance which added to the intensity of the light. When she had been there about ten days she observed one evening, at the time of sunset, that first the fringes of the clouds appeared red, and soon after the same colour was diffused over all the objects around her, especially if they were white. This lasted the whole

* Dr Heberden.

night, but in the morning her sight was again perfect. This alternation of morbid with sound sight, prevailed the whole of the time the lady resided on the coast, which was three weeks; and for nearly as long after she left it, at which time it ceased suddenly of its own accord.

Some remarkable instances are recorded of want of power in distinguishing colours. These facts are important to bear in mind when testing the healthy condition of the organs of vision. In some cases a morbid condition of this sense (symptomatic of centric disease of the brain) consists in the patient not being able to distinguish one colour from another, as well as in his observing certain objects surrounded by a halo, variously coloured and tinted.

Dr Priestley has published a curious case of error of colour in five brothers and two sisters, all adults. One of the brothers could form no idea whatever of colours, though he judged very accurately of the form and other qualities of objects; hence he thought stockings were sufficiently distinguished by the name of stockings, and could not conceive the necessity of calling them white or black. He could perceive cherries on a tree, but only distinguished them, even when red-ripe, from the surrounding leaves by their size and shape. One of the brothers appeared to have a faint sense of a few colours, but still a very imperfect notion; and upon the whole, they did not seem to possess any other distinguishing power than that of light and shade, into which they resolved all the colours presented to them—so that dove or straw colour was regarded as white; and green, crimson, and purple, as black or dark. On looking at a rainbow one of them could distinguish that it consisted of stripes, but nothing more. Dr Nichol relates the case of a boy who confounded green with red; and called light red and pink blue. His maternal grandfather and one uncle suffered from the same imperfection.

CHAPTER XXII.

MORBID PHENOMENA OF VISION.

In diseases of the brain, the sight may be—

α. *Impaired.*
β. *Lost.*
γ. *Exalted.*
δ. *Perverted.*

Impairment and Loss of Vision.—These are important symptoms of organic disease of the brain. The failure of vision may come on gradually or occur suddenly. The sight is occasionally lost in one eye before the defect is observed, but, as a general rule, the disordered function of the eye is of slow and progressive growth, proceeding, *pari passu*, with the development of subtle structural changes in the delicate tissue of the brain, its membranes and vessels, more immediately connected with the origin, course, and distribution of the optic nerves.

Impairment of vision is often symptomatic of gastric, hepatic, and intestinal derangement. It is of importance not to overlook this fact, when examining a suspected condition of brain disease, associated with what may be considered symptoms of cerebral amaurosis.

This affection of sight arises, occasionally, from general debility, hemorrhage, morbid states of the blood, and exhausting and debilitating discharges. Sudden loss of vision

has been known to succeed a severe mental shock. It is observed as one of the consequences of typhus fever, and frequently succeeds blows upon the head, after the acute cerebral symptoms so induced have subsided. This condition of vision may also be the effect of syphilitic or lead poison, tabes dorsalis, arthritis, or be consequent upon severe long-continued anxiety and distress of mind, interfering with the cerebral nutrition, and causing atrophy in those portions of the brain anatomically connected with the optic nerve.

"It is well known that sympathy with the nerves of the digestive organs will give rise to various affections of vision, from the slightest dimness up to temporary amaurosis, from the occasional appearance of a luminous spot up to that of forms and spectra, which are shaped by the imagination into distinct apparitions. It is difficult, therefore, to arrive at any certain conclusion with respect to the existence of cerebral disease from the indications afforded by the organ of vision; and numerous cases of affection of the optic nerves have been considered as only sympathetic, which, in fact, were symptoms of disease acting at once on the origin of those nerves of the brain. A gentleman came to town about two years ago on discovering suddenly, with surprise and alarm, that the sight of one eye had utterly failed him. He consulted all the oculists and surgeons chiefly celebrated for the treatment of such cases, and most of them were of opinion that this partial defect of vision was purely sympathetic, and would be removed by the use of senna and blue pill, and in fact it was, to a certain extent, so removed: but as he died soon afterwards in Ireland with the symptoms, as I have been informed, of disease of the brain, and as he inherited, and himself evinced, a tendency to cerebral disorder, which appeared to be hereditary (his mother being at this moment afflicted with hemiplegia), I

think there can be little doubt that his temporary loss of sight was a symptom, not merely, as it was supposed, of dyspepsia, but of a morbid state then existing in the brain. In a recent case of paralysis, the occurrence and fatal termination of which the friends of science everywhere deplore, it appeared from the result that a singular affection of the optic nerves, which had previously been attributed to derangement of the stomach, indicated with too much truth the existence of irritation or pressure affecting the origin of one of these nerves."*

In the early stages of cerebral amaurosis, termed amblyopia, or incomplete amaurosis, the patient complains of his vision becoming gradually indistinct, objects appearing either lighted up by a bright flame, or surrounded by a fog or mist. These symptoms are somewhat analogous to those described by Romberg as symptomatic of *gutta serena.*

"The outlines of objects," says Romberg, "appear not only indistinct, but also broken, and thus disfigured. The light of the candle appears rent; while reading, the patient misses single syllables, words, and lines, and he is forced to follow them by moving his eye, head, or entire body. At times, the upper or lower, the right or left half, the circumference or centre of the object only is seen; at others the loss of vision is still more partial, and is confined to different spots of small extent, and with differently shaped outlines. Instances also occur in which the object is only seen when it bears a definite relation to the eye, and it vanishes on the slightest movement of the eye or head."

I propose to consider briefly some of the more characteristic symptoms of *centric* cerebral amaurosis connected with organic diseases of the brain, and disturbances of the cerebral circulation. The ordinary premonitory or asso-

* Croomian Lectures on the Inflammatory Affections of the Brain, by F. Hawkins, M.D.

ciated symptoms, by means of which the diagnosis of *cerebral* from *sympathetic* conditions of morbid vision may be facilitated, are as follow.

In centric cerebral amaurosis, the patient complains of vertigo and headache. The cephalalgia is sometimes acute in character, but occasionally of so mild a type as altogether to escape observation. It is associated occasionally with sympathetic affections of the other organs of sense, such as the hearing, smelling. The mind in many cases also exhibits symptoms of disorder. The patient complains at times of suicidal melancholia, and is frequently troubled with hallucinations.

The headache of centric cerebral amaurosis is not generally of a permanent character. It occasionally entirely disappears, but is extremely liable to recur in violent paroxysms. "The remissions," says Dr Copland, "from this severe suffering are often so remarkable as to lead a superficial observer to the belief that it is merely periodical headache connected with dyspepsia."* The character of the headache differs remarkably in various cases. Sometimes it is acute and lancinating, oppressive and obtuse. The pain is frequently referred to a particular spot. During the severe paroxysms the headache is aggravated to perfect torture by the slightest motion, is greatly increased by mental application, aggravated when the patient stoops, and becomes acute under the influence of stimulants.

Dyspeptic symptoms, often accompanying a pain and sickness of the stomach, occur occasionally during the severer paroxysms of cephalalgia. When alluding to these symptoms, Dr Abercrombie observes, "after some continuance of fixed headache, the organs of sense become affected, as the sight, the hearing, the taste, and smell, and occasionally the intellect." The loss of sight generally takes

* Med. Dict.

place gradually, being first obscured, and, after some time, entirely lost.

Double vision soon supervenes. This condition may either be permanent or occur at intervals. A remarkable case is recorded in which blindness took place rather suddenly, and, after it had continued some time, sight was restored by an emetic: the vision was distinct for an hour, and then was permanently lost! The intellect is frequently impaired in these cases, and sometimes the speech is lost. The morbid appearances in the brain after death present no uniformity.

"In two cases there were tumours so situated as directly to compress the optic nerve; in another, a large tumour pressed upon the *corpora quadrigemina;* in a third, the disease was situated at the lower part of the anterior lobe; and in another, in which the right eye was affected, it was in the substance of the left hemisphere, near the posterior part. In a case by Drelincurtius, the disease was an enlargement of the pineal gland; and in another case, in which there were both blindness and deafness, a large tumour was found situated between the cerebrum and the cerebellum."*

Amaurosis is in some cases occasioned by local pressure on the optic nerve, or some portion of the brain in its immediate neighbourhood. It may also proceed from disease of the *cerebellum,* as well as *cerebrum,* and be connected with lesions in parts of the brain remote from the origin of the nerves of sight. Impairment of vision is often the consequence of white softening, abscess, and atrophy of the brain, and other conditions of the tissue connected with disordered states of nutrition. This disorder, however, is not necessarily the effect of congestion, or organic alterations in the optic nerve or thalamus.

* Abercrombie on Diseases of the Brain, p. 318.

Andral relates the particulars of several instances of disease of the *cerebellum* accompanied with a loss of vision. When referring to these cases he says—"I am unable to account for the phenomenon. In two out of twelve cases of softening of the cerebellar lobes, blindness existed on the side of the body opposite the lesion." *

The organic changes within the cranium which occasionally produce amaurosis are inflammation, softening (acute and chronic), serous effusion, induration, abscesses of various kinds, tumours, tuberculous formations, adipose tumours, flesh-like tumours, tumours of a fibro-cartilaginous nature, bony and calcareous concretions, hygromatous tumours, cysts containing a serous or albuminous fluid, hydatids, fungus hæmatodes, melanosis, hæmatomatous tumours, thickening of the membranes, depositions of matter between their laminæ; dense tumours of a uniform whitish or ash colour, and exhibiting the appearance and properties of coagulated albumen, which are most frequently attached to the dura mater; diseases of the cranial bones, osteo-sarcoma, and exostosis.

In an amaurotic boy, who was attacked by mania a short time before his death, Beer found a considerable spicula at the side of the *sella turcica*, which had penetrated the optic nerve at the chiasma.

The most frequent cause of amaurosis is a sero-albuminous exudation, commonly the result of meningitis occurring at the base of the brain compressing the chiasma of the optic nerve. The oculo-motor nerve, from its close proximity, is generally involved in the disorder, so that convulsions or paralysis of the muscles of the eye are found to co-exist.†

* Clinique Médicale. Andral.

† "A Manual of the Nervous Diseases of Man," by M. H. Romberg, M.D. Translated by E. H. Sieveking, M.D., vol. i. p. 232. London, 1853.

"Amaurosis from organic disease within the cranium is frequently complicated with epilepsy, apoplexy, paralysis, and affections of the mental powers. It is remarkable that tumours, for example, will be found under the first class, unaccompanied by any remarkable symptoms, while under the second, in the same situation, and of no larger size, they were associated with blindness, convulsions, or paralysis.

"It does not appear that these diversities depend either upon the size of the tumours, or, as far as we know at present, upon their particular structure. But these points remain to be investigated, particularly what diversity of symptoms is connected with the nature of the tumours, and especially with their characters as being tumours distinct from the cerebral mass, or as being indurations of the substance of the brain itself." *

"The loss of vision which results from organic cerebral disease more commonly affects one eye previously to or independently of the other; and if both are attacked, the amaurosis is more rapid in one than in the other, but frequently at the commencement of the disease the field of vision is not equally obscure." †

The patient complains of *muscæ volitantes*, scotoma, or there is increased sensibility to light, with luminous spectra and contracted pupil, objects appearing distorted and confused. This is associated with convulsive movements of the globe or eyelids. As the amaurosis becomes more complete, the characteristic vacant stare of the amaurotic patient is apparent; the pupil is widely dilated and motionless, and the muscles are convulsed. The eye usually appears free from all organic change, and the

* Abercrombie on Diseases of the Brain, pp. 322, 323.

† Tyrrell, Cyclopædia of Practical Surgery, vol. i. p. 94.

retina, as far as can be ascertained, is perfectly sound in its structure. But the appearance of the eye, and particularly of the pupil, is not to be depended upon, for, although it is usually dilated and immovable, the exceptions are too numerous to admit of its being considered as of uniform occurrence.*

Sudden loss of sight is occasionally premonitory of apoplexy. A locksmith experienced considerable vertigo for eight days. He then became blind. He remained in this state of vision for fifteen days, when he was seized with sudden loss of consciousness, followed by paralysis. His sight was gradually restored, but the hemiplegia continued.†

The impairment of vision which so often precedes apoplexy, may exist for some time without being recognised by the patient or his friends, in consequence of the defect of sight being limited to one eye, the other compensating, as suggested by Devay, for the weakness of its fellow.

A total loss of sight, unassociated with other symptoms of brain disease, may exist for a long period antecedently to the manifestation of other symptoms of cerebral disorder. Baron Hornestein, whose case is cited by Wepfer, became blind three weeks before he was seized with a fatal attack of apoplexy.‡ Dr Young lost the sight of one eye from tumour of the brain some time before he was aware of the fact. It was not until he applied his eyes to a telescope, and found that the sight of *one* was entirely lost, that he became acquainted with the morbid state of his visual powers.

The amaurosis so often associated with morbid states of the brain, connected with apoplexy, occasionally continues

* Copland's Medical Dictionary, vol. i. p. 56. † Andral.

‡ Anatomica Apoplecticorum.

after the patient recovers from the acute symptoms of the cerebral attack.

A gentleman, after an apoplectic seizure, lost his sight, and continued in a state of perfect blindness for about seven years. After that period, while one day out in his carriage, he suddenly recovered his vision. It was subsequently found that he had entirely retained his skill in drawing, for which he was previously much distinguished.

The case of Dr Adam Ferguson, the historian, affords a good illustration of the benefit to be derived from an early attention to the incipient symptoms of cerebral plethora and apoplexy. Dr Ferguson experienced several attacks of temporary blindness some time before he had an attack of palsy; and he did not take these hints as readily as he should have done. He observed that while he was delivering a lecture, his class and the papers before him would disappear, vanish from his sight, and reappear again in a few seconds. He was a man of full habit; at one time corpulent and very ruddy, and though by no means intemperate, he lived freely. I say he did not attend to these admonitions, and at length, in the sixtieth year of his age, he suffered a decided shock of paralysis. He recovered, however, and from that period, under the advice of his friend Dr Black, became a strict Pythagorean in his diet, eating nothing but vegetables, and drinking only water or milk. He got rid of every paralytic symptom, became even robust and muscular for a man of his time of life, and died in full possession of his mental faculties at the advanced age of ninety-three, upwards of thirty years after his first attack. Sir Walter Scott describes him as having been, "long after his eightieth year, one of the most striking old men it was possible to look at. His firm step and ruddy cheek contrasted agreeably and unexpectedly with his silver locks; and the dress which

he usually wore, much resembling that of the Flemish peasant, gave an air of peculiarity to his whole figure. In his conversation, the mixture of original with high moral feeling and extensive learning, his love of country, contempt of luxury, and especially the strong subjection of his passions and feelings to the dominion of his reason, made him, perhaps, the most striking example of the Stoic philosopher which could be seen in modern days."

"Amaurosis dependent upon vascular congestion is marked by some or all of the following symptoms:— Dilated, sluggish or immovable pupil, ptosis or strabismus, and oblique or double vision of the affected eye; a preternatural action of the carotids, flushed face, sense of weight, pain or stricture of the scalp, lethargy, occasional tinnitus aurium, with greatly disordered and irritable stomach. The patient frequently complains, particularly in straining, stooping, or on first lying down, of seeing luminous sparks and flashes, and a reflection of one or more of the choroidal vessels, the visible pulsation of which is a cause of much distress to him."*

A gentleman was under treatment about six months previously for a severe attack of phrenitis, and had been restored by the aid of active remedies administered by a judicious practitioner. He was subsequently seen in a state which was called perfect recovery. He had for some time resumed his active habits of business, but although considering himself perfectly well, complained confidentially to me that for some time he had been constantly arguing with himself on an increasing apathy towards his wife; not physical apathy—quite the contrary, it was a strange disinclination to be in her society; he found himself frequenting the haunts of his former bachelor state against his intention, and almost against his will, yet

* Diseases of the Eye, p. 162, by B. Travers, F.R.S. 1825.

received no gratification from any indulgences they afforded, and was constantly harassed by a feeling of remorse for neglecting the society of his wife, whom he had married from choice, whom he respected and thoroughly loved, and who was exceedingly tolerant of his indifference, from a belief that it was caused by pecuniary anxiety. An attempt was made to convince him that it was a moral produced by a physical change, and that it would pass away with the consolidation of his health. He remained some time in this state, when he gradually began to see faces in the dark—afterwards in the daylight; groups of faces constantly changing their shape; sometimes a portion of one face would join itself to a portion of another face; sometimes parts of faces—eyes, noses, mouths, cheeks, and foreheads—would float about in vast numbers before him, and from time to time unite themselves in the most fantastic combinations. The whole occupied his mind and rendered him incapable of continuous attention to any subject of importance requiring deep consideration. A large bleeding and a blister to the nape of the neck immediately restored him to vigorous health and all his original delights in the society of his amiable and affectionate wife.*

Hyperæsthesia, or Exaltation of Vision, is occasionally observed among the premonitory symptoms of cerebral disease. The patient complains either of an acute and sensitive condition of the retina or of his abnormal expanded visual capacity. A young gentleman, a few days before an attack of inflammation of the brain, suffered from a painful condition of sight. When his eyes were exposed even for a minute to the light, he shrieked with pain. In another case the symptom was precursory of apoplexy for at least *ten* days. It was, however, associated with severe

* On the Duality of the Mind, by R. Wigan, M.D.

attacks of vertigo. Andral says, when alluding to this symptom of brain disease—"Cases have been observed in which, for a longer or a shorter period before the attack, the sight has acquired an unusual degree of fineness."

The existence of important morbid phenomena of vision, like those previously detailed, manifesting themselves prior to the occurrence of hemorrhage, incontestibly proves, as Andral sagaciously observes, that BEFORE THE BLOOD IS EFFUSED, THERE IS ALREADY SOME MORBID ACTION, EITHER CONTINUOUS OR INTERMITTENT IN THE BRAIN, OF WHICH IT WOULD BE IMPORTANT TO DETERMINE THE PRECISE NATURE." How significantly does this sagacious pathologist thus point out the necessity of carefully studying the *principiis obsta* of cerebral disease.*

In the following case disease of the brain was first indicated by an acute condition of vision. A painter, aged thirty-two, was admitted in 1849 into the Hotel Dieu at Lyons. This young man, who was possessed of some talent, had been gradually reduced to distress by political disturbances and other causes. A year before entering the hospital, his sight, which was previously good, acquired greater development. From his window, which opened into a very long street, he could distinguish objects and persons whom he could before neither distinguish nor even see. This circumstance troubled him and surprised those about him. The exaltation of vision continued until August 1848, when he was seized with violent continued pains in the right parietal region; at this time there was a slight weakness in the left arm. The symptoms increased till March 1849, when there was paralysis and contraction of the right arm and blindness of the left eye. When he entered the hospital in July the following was his condition:—There was almost profound stupor. The paralysed

* Andral, Clinique Médicale, tom. v.

eye was almost completely covered by the upper eyelid, and there was paralysis with contraction of all the left side of the body. There was complete loss of power over the sphincters. He continued in this state until the beginning of September, when death ensued, preceded by symptoms of low fever. The autopsy revealed partial circumscribed softening of the middle and upper part of the right hemisphere for the extent of about two *centimètres*. The convolutions were pale and puffy; the pulp was diffluent, and of a dirty grey colour.

Dr Brachet relates, when he was interne at the Bicêtre in 1811, the infirmier of the surgical ward one day astonished him by the capacity which his vision had acquired since the previous day. He could distinguish the most minute objects at an enormous distance. Five hours afterwards he felt a slight headache, and in a few hours more was seized with apoplexy ("*une apoplexie foudroyante*") and died the next night. A recent coagulum of blood was found in the right optic thalamus. The inflammation which had preceded this effusion had affected a part of the brain immediately concerned in vision.

Dr Hibbert, when considering the subject of spectral illusions, refers to morbidly acute sensory symptoms as connected with certain obscure conditions of brain disease. He says that in particular forms of cerebral inflammation the first symptoms are an increased intensity of visual sensation. In the case of a lady, a patient of Dr Good, there was an intolerable acuteness of hearing and vision, insomuch that the slightest light and sound, even the humming of a fly, became insupportable. Ideas also were rendered more vivid. But as the inflammation increased the acute sensibility to external impressions gradually diminished, whilst the recollected images of the mind assumed a most frightful reality. In an

example which came under my own notice the illusions of vision were so intense, that, although the patient closed his eyelids, he could not even then dispel the lively images of demons that haunted his bed. The sleep was, moreover, disturbed with the most horrible dreams.*

A single woman of delicate frame, aged twenty-two, had been much afflicted with hysteria for more than three months. The paroxysms of the disease were often violent, accompanied frequently, but not constantly, with temporary delirium; so that the disease appeared to be well marked, never being preceded by any local irritation of which the patient was conscious. During some of these attacks she was occasionally so much in possession of the faculties of the mind and of speech, as to be able to reply appositely to questions put to her by the attendants; but of these conversations she retained no recollection whatever after the termination of the attack. Certain paroxysms were productive of convulsions so violent as to require coercion; whilst others were attended merely with mild delirium. In the latter, impressions made by surrounding objects upon the retina were transmitted to the brain, as usual inverted, and were represented to the mind in that position so forcibly that the young woman could not resist the

* Goethe possessed the rare faculty of producing phantasms at will. He says—"When I closed my eyes and depressed my head I could cause the image of a flower to appear in the middle of the field of vision; this flower did not for a moment retain its first form, but unfolded itself and developed from its interior new flowers formed of coloured or sometimes green leaves. These were not natural flowers, but of fantastic forms, although symmetrical as the rosettes of sculptors. I was unable to fix any one form, but the development of new flowers continued as long as I desired it, without any variation in the rapidity of the changes. The same thing occurred when I figured to myself a variegated disc. The coloured figures upon it underwent constant changes, which extended progressively from the centre towards the periphery, exactly like the changes in the modern kaleidoscope."

impulse she felt to place the chairs in the room horizontally, lest they should fall; finding that they would not stand on the other end, she expressed her surprise, and laughed heartily on seeing the attendants all standing, as she thought, upon their heads. The illusion immediately subsided with the fit, both lasting generally about an hour. This, therefore, was not a singular occurrence in one particular fit, but recurred repeatedly. The disease yielded at length to the ordinary treatment of hysteria, no defect either in the organ of vision or the faculties of the mind remaining.*

"A widow of eighty-five years of age, and of a robust constitution, was affected eight years previous to her death with cataract of both eyes. She underwent an operation which appeared at first to prove successful; after a few months, however, her sight became impaired, the left bulb was atrophied, the right pupil closed, and the patient was only able to distinguish light from darkness. At this time she first began to complain of seeing long rows of worms, strips of coloured linen, or threads of worsted constantly passing upwards. An artificial pupil was now made in the right eye. The phantasms ceased for a time, but returned after eight weeks, first assuming the old shapes and subsequently new ones. High walls rose up before her, heavily-laden carts surrounded her, or human figures hovered about her, generally threatening and alarming, rarely with a friendly aspect. These phenomena generally occurred only during the waking state; they soon became so vivid that the patient felt convinced of their real existence, and though continuing in the full possession of her intellectual faculties, made defensive movements with her hands whilst conversing. Her forehead was hot, the face much flushed, the pulse full and hard, and there was a sense

* Medical and Physical Journal, vol. xiv. p. 117.

of anxiety and oppression which, with the other symptoms, became aggravated towards night. The phantasms continued, with occasional remissions and exacerbations, during six years, until death ensued. Fits of vertigo and unconsciousness supervened, associated with weakness, and subsequently with paralysis of the left arm ; these recurred several times during the year without exerting any influence upon the visual phenomena. In the month of January 1837 the patient was seized with a violent apoplectic attack, the symptoms of which were deep coma, continuing for four-and-twenty hours, stertorous breathing, slow, full pulse, paralysis of the left arm and leg, and involuntary discharges. She recovered also from this attack, and lived for a year and three months without further inconvenience.

"On the 16th March 1838, after feeling particularly well and happy during the previous day, she was seized during the night with another apoplectic attack, accompanied by complete, hemiplegia of the right side. She died in the evening of the following day." *

In the right hemisphere of the cerebrum, not far from the external edge of the posterior lobe and the surface, there was discovered a cavity of the size of a plum invested with a reddish membrane containing a small quantity of ochra fluid. There was fresh extravasation of blood in the middle and posterior lobe of the left hemisphere near the *corpus striatum* and the *optic thalamus*. The latter was converted into a greyish pulp. The optic nerves and the chiasma were in a normal condition. An examination of the retina was not permitted.

Derangement, Perversion, and Aberration of Sight will be found more frequently symptomatic of disease of the brain than impairment, loss, or exaltation of this function. Such disordered states of the eyes vary from

* Romberg.

slight disturbances and irregularities of sight to actual illusions, *ocular spectra*, and phantasms. The physiognomy of the eye is peculiar in these cases of brain disease. This symptom should be accurately observed. The eyes present occasionally an unnatural brightness, and the vision an intensity of power, when the patient's attention is concentrated upon any object, or if engaged in exciting topics of conversation.

In some conditions of cerebral disorder the patient is conscious of an inability to fix his eyes for many minutes continuously upon any one point or object. There is an evident want of control over the sight, the eyes ceasing to obey acts of volition. Occasionally the patient stares at objects; this fixed expression of the eyes is associated with an apparent immobility of the pupil. There is often observed in these cases what has been termed a destruction of the *motor parallelism* of the nerve of vision; a deviation, in fact, from the optic axis.

I attended a case with Dr Birkett, of obscure cerebro-spinal disease, in which there existed a singular irregularity of vision, the effect, it is presumed, of atrophy and impaired nutrition of the brain, possibly of the *optic thalamus*. There never had been in this case any marked headache. The patient, however, complained of mental confusion, want of confidence in himself, and of severe paroxysms of vertigo. He appeared to have lost the controlling power over the lower extremities. He had for some time an impairment of sensibility in two of the fingers of his left hand. His intellect appeared unclouded. The eyes were peculiarly affected. There was a marked difference in the dilatation of the pupils, the left pupil being contracted and the right dilated. The left eye appeared to be atrophied, and had the appearance as if it were sunk in its socket, and much smaller than the opposite one. The vision was

also defective in each eye. With the left he had short and with the right eye long sight.

In some forms of brain disease there is a peculiar expression of the eyes, similar to that seen in some cases of strabismus. The patient stares as if he were greatly alarmed, and under the influence of an optical illusion. In these cases there is, as Dr F. Devay remarks, "a want of parallelism in the organ of vision: the eyes are not in the axis of reason."

Dr Mérier has called attention to a trembling oscillation and vacillation of the ocular globes observed among the insane threatened with dementia. It is a permanent and continual convulsion, in consequence of which the small lateral movements are confined to the ocular globes. Sometimes they work up and down, but the last movement is much more rare. The observations of Dr Mérier have led to these conclusions:—1. That the exhibition of convulsive movements, laterally and up and down, which he has observed in a great number of patients, has always coincided with that period of the disorder marked by the change from an acute to a chronic state—for example, in the transition from mania to dementia; 2. That the existence and persistence of these ocular movements among patients give to the prognosis a very great gravity, justifying the notion that the insane who were in a supposed favourable condition were already, or were about to become, *incurable*.

M. Morel, referring to these facts, adds, that in such cases the eye throws out an extraordinary and undefinable brilliancy; but this last phenomenon is scarcely ever remarked except during the period of transition. When dementia is confirmed, the sight of the eye is, as it were, extinct, and the gaze has that stupid and doltish expression quite in harmony with the weakness of the intellectual faculties.

Portal predicated an attack of apoplexy in a gentleman (apparently at the time in perfect health) from observing a slight fixedness of his left eye, and a trifling weakness (incipient paralysis) on the same side of the body. Apoplectic patients have been known to complain, previously to an attack, of objects appearing to be coloured red. Others fancy that a line of a similar tint borders all things they see. They also complain of a sensation like that experienced by the eyes when they have been exposed for some time to a strong light. Objects appear as if they were dotted with black or red spots, or the patient imagines that a mist or thin veil intervenes between them and the eyes.

Meningitis, congestion, or cerebral hyperæmia, and other acute diseases of the brain, are occasionally preceded by double vision, strabismus, and other derangements of sight. These are also the well-recognised premonitory symptoms of acute inflammation of the substance of the brain.

Andral observed a person who, for several years, was constantly tormented by the imaginary sight of small bodies of different forms and colours dancing before his eyes. If he looked steadily at an object, it appeared to be dotted with red or black points. These *ocular spectra*, which were permanent, prevented his reading or writing. He did not complain of vertigo or headache. The conjunctivæ were habitually congested, and he could not endure, without considerable suffering, a more than ordinarily strong light.

Among the aberrations of the sense of sight, precursory of the cerebral disease, are the following :—Seeing objects cut in half, double, or inverted. It twice occurred to Dr Wollaston not to be able to see but on one side of the axis of vision. The first time the left side of each eye was affected, he saw but the half of a man's face, or of any object he looked at; and in attempting to read the name JOHNSON over a door, he saw only . . . . SON, the commencement

of the name being totally obliterated from his view. The defect of vision was of short duration. About nineteen years afterwards the visual phenomenon recurred. Then the right side of the eye, about three degrees from the centre of the retina, was affected; its duration was ten minutes. Two analogous cases are also mentioned by Dr Wollaston. Desmoulins states that M. Arago has experienced this affection of vision three times: on the first two occasions objects situated to the right of the axis of vision were invisible; the third time he saw objects on the right only of this axis. The same author notices also the following remarkable case:—In consequence of a cerebral fever, the external side of the left retina of M. de M—— became insensible: with his eye he saw objects only situate to the left of the centre of vision, and as, at the same time, there was an outward deviation of the axis of this eye through a paralysis of the nerve of the third pair, when he employed both eyes, he saw objects double; but, what was still more singular, the right eye being closed, he saw with the left eye the objects removed from twenty to twenty-five degrees to the right of their real position.

When speaking of the disorders of vision connected with cerebral hemorrhage, Andral remarks—"Sight is sometimes, but not always, disturbed. We see individuals struck down with apoplexy and affected with paralysis and loss of sensation, where, nevertheless, consciousness and vision remain. Different sensations, resulting from disturbance of this function, are experienced by patients, who describe them in different ways; some say that they have motes before their eyes; others, they see the light as through a cloud, just as on the onset of cataract—yet here the crystalline lens is clear; others see various colours. Sometimes those who, at a later period, are attacked with apoplexy, have the sight modified for a longer or shorter

time before the attack in such a manner that all objects appear double—a symptom which is sometimes transient, being present one day and not another. In other cases the loss of sight is nearly complete, but such cases are very rare. When the sight is lost, this may take place on one side or on both; and this blindness coincides with the loss of numerous other senses."*

Photopsia, or the appearance of luminous phenomena, objects in a state of ignition, or surrounded by phosphorescent halo, are common incipient symptoms of acute disease of the brain.

"A distinguished artist for several years suffered from photopsia, to which afterwards headache and diminution of vision were added, terminating in complete blindness. Nevertheless, the luminous phenomena continued night and day, occasionally assuming the appearance of angels with flaming swords, whose movements were apparently accompanied by an electric light. The forms, however, frequently varied. The mental powers of the individual remained unimpaired, and whenever he went out he was very attentive to everything that did not require eyesight. In the spring of 1835 he had an apoplectic seizure which deprived him of movement, consciousness, and speech. There was complete paralysis of the sphincters, and the pupils were dilated. He recovered from this condition, and after a few weeks was again able to go about the town and attend to his business. But the visual phenomena returned, and the sight was as painfully dazzling, and more continuously so than before. Pressure at the back of the neck caused great uneasiness, extending to the lower trunk and extremities. It was not pain, but a horrid feeling that was induced. This pervaded the whole frame, and it was only by the greatest entreaty that he could be induced to permit a

* Andral's Clinique.

repetition of the manual examination. The sensibility had now so much increased that simply touching was sufficient to renew these distressing sensations. A pint of blood was taken from the arm. During the operation the vision returned. He said he saw three women standing behind the gentleman who was bleeding him. Being asked, were they as large as life, he replied, 'that they were rather low,' and pointed to the place where they stood. It was inquired, 'Had he ever seen them before?'—'No.' 'Were they speaking to each other?'—'No.' 'What were they doing?'—'They were usually minding their business, but sometimes stopped to watch him, and kept their eyes fixed on his for some moments.' The sense of feeling was quite as much disturbed and illusive as that of sight, for in a few moments after, he called out that he felt 'one of them thumping up against that part of the bed on which he lay,' and presently again looked abruptly behind him, saying 'that somebody had hit him two or three times on the back.' All this was very different from the usual raving of the insane, as he scarcely felt the impression before he was himself aware of its being an illusion. In fact, his chief distress arose from the alarming nature of the disordered perceptions. 'Rid me of these sights and sounds,' was his entreaty, 'and get me some sleep, or I shall lose my senses!'

"Active purgatives were exhibited after venesection was performed. Subsequently a blister was applied over the ninth dorsal vertebra with great benefit. He soon recovered under the continued use of gentle aperients, combined with counter-irritation.

"He had a recurrence of the attack some months after, in consequence of hard drinking; but though he complained more of the head, especially the back of it, there was no material fulness or frequency of the pulse, or febrile irri-

tation. He was relieved by purgatives and blistering, and was afterwards treated with camphor and other nervine medicines.

"In the month of August an apoplectic attack occurred, and death ensued in three days. The right lateral ventricle of the brain was found after death to contain nearly three ounces of clear fluid. The left was full of bladders resembling hydatids of various sizes, and containing fluids varying in consistency. This accumulation sprung from the floor of the ventricle by a kind of pedicle, and penetrated into all the recesses of the cavity, pushing its branches forward so as to extend the thalamus of one side into the opposite half of the brain, destroying everything that opposed its passage. Both thalami optici were converted into a pulp, as well as the whole anterior lobe, which was so diffluent as scarcely to bear the slightest pressure. The optic nerves were compressed by the hydatids so as to present a mere thready appearance."*

Previously to attacks of apoplexy a curious phantasm is occasionally observed. A spectral image resembling the patient is noticed. This form of hallucination is termed *deuteroscopia*. The phenomenon is considered of rare occurrence, even among the insane. Aristotle refers to this type of illusion.† It is explained more at length in his Meteorology.

A certain Antipheron, Aristotle says, when he was walking, saw a phantasmal reflection of himself advancing towards him. A traveller, who had passed a long time without sleeping, perceived one night his own image, which rode by his side. It imitated all his actions. The horseman having to cross a river, the phantom passed over it with him. Having arrived at a place where the mist was

* Dr Jas. Johnson, Medico-Chir. Review.

† De Memoriâ et Reminiscentiâ.

less thick, this curious apparition vanished. Goethe relates having had a similar hallucination. This form of hallucination is frequently observed during the delirium of typhoid fever.*

Morel relates the case of a lady who recovered from an attack of general paralysis. In the incipient phase of the disease she affirmed that she constantly saw at the end of the garden a man without a head. When she directed her steps boldly towards the place where the apparition appeared, it immediately vanished. She said nothing about this phantom to her family, fearing she would be thought insane. This patient observed, after her alleged restoration to reason, that the first trial she made of her intellectual powers whilst communing with herself consisted in her occupying the place where the apparition formerly appeared. The absence or presence of the phantom ought to prove, she said, the validity of her cure.

In many cases the ocular spectra, illusions of visions, and phantoms, are supposed to be referrible to spinal disease or irritation. I, however, suspect that when morbid phenomena of this kind are present, the affection is to be viewed more as one of a cerebro-spinal character than as a disorder exclusively localised in the spinal column.

A man, aged thirty-six, of a good constitution but very intemperate habits, complained for some days of occasional pains in the stomach and arch of the colon, with costiveness, loss of appetite, and general nervous excitement. He had constant slight pain in the brow, with disturbance of vision and extreme sensibility to noise, conjoined with a morbid state of exaltation of the senses. His eyes were suffused, tongue white, pulse about ninety. He had a pain in his chest, accompanied with great anxiety. His chief

* "Anatomie Comparée du Système Nerveux." Par Fr. Leuret and P. Gratiolet. Paris, 1857. P. 539.

distress, however, arose from optical visions, with which he was continually troubled. Figures of persons, almost all of whom were wholly unknown to him, were frequently before him, sometimes so plain and distinct, that although his reason assured him they were mere illusions, he could scarcely avoid believing that they had an absolute existence. They were not always the same nor always present, but went and came, renewing his anxiety and irritation of mind as often as they appeared. On examining the spine, tenderness was found at the three upper cervical vertebræ, pressure on any of them exciting much pain. The eighth, ninth, and tenth dorsal vertebræ were excessively tender, the slightest pressure on any of them occasioning an exceedingly distressing sensation along the spine to the sacrum.

J. H., aged fifteen years, said that, at night, he invariably became blind: he could not see the furniture or people about the room when they were perfectly visible to every one else. The candle or fire-light appeared like a broad red haze, just distinguishable from darkness, but making nothing perceptible. He could perceive any dark object between him and the light, and no more. He was affected in this way for about a fortnight, and had a similar complaint a year previously, which continued a long time. There was great tenderness on pressing the second cervical vertebra. He perfectly recovered in less than forty-eight hours, by a small bleeding, an active calomel purgative, and a blister to the nape of the neck, and has since continued well.

"A young gentleman, aged seventeen, was frequently attacked with violent headache and sickness of stomach. These symptoms were always ushered in by indistinctness of vision. His first warning of the fit was a sudden appearance of something misty and tremulous before his eyes;

soon afterwards he perceived only the vertical half of any object he looked at, and eventually the outlines faded away altogether into thick darkness. This almost total blindness continued generally for a very short period; the thick dark mist gradually cleared off, and the forms of everything around him were again distinctly observed. He was then instantly seized with intense headache, chiefly affecting the forehead, usually so dreadful in its nature, and accompanied by such nausea or sickness, that he said he could scarcely live if it lasted a second day. He commonly found relief by lying down. The pain was thus more easily endured, and the paroxysm was shorter, terminating in four or five hours, when it might otherwise continue for twenty. Instead of pain, a deep lethargy sometimes supervened on the affection of vision, during which he lay as in heavy slumber, but frightfully conscious of time passing, and of terrific sights and sounds crowding upon his imagination. He awoke out of this state of mind in a state of temporary delirium—did not know for some time where he was or what had happened, and spoke incoherently. Even after the subsidence of the headache, although there was much less confusion of mind than after the lethargy, the memory was always very imperfect for some hours. He could not recollect the words he wished to make use of, but employed others wholly inapplicable in their stead; and of this mistake he was always conscious at the moment. To these attacks he had been subject for about two years, but in their intervals he has sometimes been affected in a very different way. He awoke suddenly out of his sleep at night in dreadful apprehension, for which he could not account. There was a continued crowding and rushing of ideas through his mind. He felt as if everything he did, and all that was done about him, passed over with a frightful and hurried rapidity. This at last wore away, and was generally, even from the

first, more or less under the influence of his will, an effort to check the current of his ideas and divert it into another channel frequently proving successful.

"On examination there was found great tenderness of the second cervical and of the seventh or eighth dorsal vertebræ. When this last was slightly pressed upon, he felt a horrible sensation shoot through his whole frame. The pain was quite indescribable, and nearly made him faint. He expressed the greatest apprehension at the thought of the pressure being repeated, and had a disagreeable feeling in his back for the entire day afterwards.*

STRABISMUS is occasionally observed among the early signs of disease of the brain, particularly in the cerebral affections of children. If present, it should be carefully regarded. A slight squint in the eye suddenly appearing, and associated with acute headache, mental confusion, or severe vertigo, has occasionally been found precursory of apoplexy, and often denotes the commencement of effusion.

A gentleman, who had complained for a few days of headache and depression of spirits, was observed, whilst at dinner, to have strabismus. A few minutes subsequently he had in a fit of apoplexy. Illustrations of a similar character could be cited in which other forms of acute disease of the brain have been ushered in by this symptom.

DOUBLE VISION is a most important precursory symptom of disease of the brain. It is one of great practical value, and should not escape attentive observation. In acute mischief originating in the brain, but particularly in the obscure cerebral diseases of children, it is an important diagnostic sign. Aberration of vision is occasionally symptomatic of gastric and hepatic disorder, but when associated

* Quoted from a treatise on the Functional Disorders of the Spinal Cord, by W. L. D. Griffiths, M.D.

with persistent or paroxysmal attacks of headache, lowness of spirits, morbid conditions of the muscular power, we cannot be too closely observant of the state of the patient's health.

Attacks of apoplexy, paralysis, cerebritis, and meningitis have often been preceded by double vision. Dr Gregory was acquainted with a sportsman who, one day when out shooting, disputed with his gamekeeper as to the number of dogs they had in the field. He asked how he came to bring so many as *eight* dogs with him. The servant assured him there were but *four*, and then the gentleman became at once aware of his situation, mounted his horse, and rode home. He had not been long in the house when he was attacked by apoplexy and died.*

Morbid Phenomena of Hearing.—The sense of sound is variously affected in different morbid states of the brain and disordered conditions of the cerebral circulation. In some cases there is observed in connexion with subtle changes of structure within the cranium, complete loss of hearing. In other instances this special sense becomes obtuse, in some it is perverted. In particular forms of disease of the brain an exalted condition of the faculty exists.

Occasionally, among the incipient symptoms of cerebral disease, there is sudden paralysis of the auditory nerve. These extreme cases are not, however, of common occurrence. The symptoms most generally noticed in insidious affections of the brain in relation to the faculty of hearing, are either a gradual impairment, sluggish state of the sense, intensely morbid exaltation, or aberration of the faculty.

Disordered hearing is one of the most frequent symptoms attendant upon those extremely dangerous affections of the internal structure of the ear sometimes involving the bones,

* Sir Thomas Watson's Practice of Physic.

membranes, and ultimately the brain itself, which are so frequently preceded for a length of time by a chronic purulent discharge (otorrhœa), often connected with chronic meningitis or cerebral suppurative inflammation, terminating in abscess of the brain.

In the incipient stage of certain affections of this organ the hearing is often painfully acute. The faintest whisper reverberates through the ear like the noise of thunder, and conversations that are taking place in remote parts of the house may be clearly and distinctly heard by the patient whilst in this state of auricular hyperæsthesia.

The sense of hearing occasionally becomes extremely acute in certain forms of delirium. A physician whom I knew was able, when in a cerebral state of exaltation, whilst occupying a room at the top of the house, to hear with remarkable clearness the conversation taking place in the kitchen.

A gentleman of about forty years of age, who had a sudden attack of hemiplegia, whilst in bed heard the least sound at the bottom of the house with an acuteness which surprised him; he could also tell the hour by a watch placed on a table at such a distance from his bed as to have rendered it impossible for him to distinguish the hands when he was in health.

Morbid exaltation of the sense is not an unfrequent symptom of approaching mental derangement. In the premonitory stage the patient often complains of great sensorial activity. He sees what no other person is able to recognise, smells offensive and disagreeable odours not perceived by those near him, and hears noises and voices appreciable only by himself. This disordered acuteness of the senses is often witnessed for some time previously to the patient manifesting any observable *alienation* of intellect characterised by illusions or hallucinations.

When the mind is losing its balance in the incipient stage of insanity, the patient will be heard to ask rather anxiously those about him, "Did *you* not speak?" "Did *you* hear a voice?" "I thought," repeats the patient earnestly, "I heard some person calling *my* name. Surely there *must* be some one in the room or outside the door addressing *me*."

These illusions of hearing often lead to a sad sacrifice of life, occasionally impelling to the commission of murder and suicide. Under the irresistible influence of an imaginary voice, many a person is driven to acts of violence and homicide. Occasionally the illusions of hearing are of a double character; that is, the patient is apparently subject to the influence of two distinct voices, a good and a bad voice; one inciting him to sacrifice life, the other a restraining voice, begging and imploring him not to yield to his dangerously insane impulses. "My bad voices urge, my good voices restrain me," was the remark of a patient who believed himself to be demoniacally possessed. "I should have destroyed myself long ago," said an insane person to Dr Morel, "or I should have killed somebody else, if the voice of my good angel had not begged and encouraged me to suffer."

Patients often contend with these antagonistic illusions, or "double voices," as Morel designates them. In one ear the most frightfully obscene ideas are suggested; whilst in the opposite one, sentiments of the greatest purity will be whispered to the disordered imagination of the sufferer. These antagonistic and opposing illusions lead to fearful contests, and produce a sad amount of mental agony.

The Taste, Touch, and Smell exhibit occasionally, at the commencement of cerebral disease, evidence of impairment, exaltation, and perversion. Prior to the development of the more characteristic symptoms of disease of the brain,

the patient complains in some cases of a morbid condition of taste, of unnatural states of the tactile sensibility, and of disorder of the sense of smell. In all affections of the brain and mind associated with derangement of the digestive organs, the latter sense is observed to be greatly involved; but there is no special and characteristic symptom in connexion with either of them distinctive of the commencement of organic disease of the brain.

The insane, in the incipient stage of their malady, are often heard to complain of being exposed to the influence of most offensive and noxious smells. The predominant odours noticed in the early periods of mental alienation are those of sulphur and putrid bodies.

The tactile sensibility is frequently disordered in the early stage of paralysis. The patient complains of a feeling of numbness or want of sensation in the ramifications of the nerves at the tips of the fingers. This morbid condition often extends from the fingers to the whole of the hand, and may, in some cases, exist for many months previously to the recognition of more decided manifestations of disease of the brain. This lesion of sensation often precedes attacks of general paralysis. Sir James Y. Simpson of Edinburgh has heard patients, suffering from incipient general paralysis, complain of their fingers "feeling like sausages." A tailor, who died of this disease, lost all sensation at the tips of his fingers for twelve months previously to any suspicion existing as to the healthy state of his brain. He was unable to work with his needle, as he never knew, owing to the anæsthesia, when he had it between his fingers.

I have referred, in a previous chapter, to the loss of sensation that occasionally occurs in the peripheral terminations of the nerves in the incipient stage of paralysis. Dr Todd cites a case of hemiplegia that commenced six months

prior to admission into King's College Hospital, with a sensation of tingling and pricking in both hands, and a considerable amount of numbness about both elbows, just as if the ulnar nerve had been jarred, or, in the patient's own words, as if he had struck his funny-bone. Accompanying these symptoms there was a sensation of heat in the fore-arms, and he soon became unable to button his clothes or pick up any small object with his right hand.

Occasionally the sensibility at the end of the fingers is greatly exalted. A morbid irritation in this part of the hand often co-exists with insanity, as well as with other types of nervous disorder. The habit of biting the nails to the quick, and gnawing the tips of the fingers, is very common among the insane, and is also observed in many conditions of nervous disorder and irritation of the brain. In many cases of mental exaltation, irritation, hysteria, and anxiety, unassociated with insanity, there is often manifested a morbid degree of exalted tactile sensibility. This local hyperæsthesia is occasionally observed among the incipient symptoms of mental derangement.

CHAPTER XXIII.

MORBID PHENOMENA OF SLEEP AND DREAMING.

THE phenomena of sleep are closely identified with, and intimately dependent upon, the state of the brain and the circulation of blood within the cranium; consequently the varied affections of the sensorium (functional as well as organic) are usually accompanied by some deviation from a normal state of this important function.

The morbid affections of sleep will be considered in the following order:—

α. *A State of Sleeplessness, or Insomnia.*
β. *An Abnormal Disposition to Excess of Sleep.*
γ. *Morbid Phenomena of Dreaming.*

The first division of the subject embraces the many gradations of insomnia, ranging from a simple state of restlessness, a disturbed, eccentric, irregular, cerebral repose (*pavores, jactatio*), and unrefreshing condition of slumber, to a state of positive *insomnia* or sleeplessness.

The second section of the subject will embody a brief analysis of certain morbid dispositions to excess of sleep, designated, according to the extent of the symptoms, by the nosological phrases, *sopor, coma, carus, lethargus.*

There is no symptom, when viewed in relation to the health of the brain and mind, that requires more careful and unremitting attention than that of insomnia or wake-

fulness. It is a common concomitant of some types of incipient brain disease, and in some cases a certain forerunner of insanity.

The brain cannot be in a healthy condition whilst a state of sleeplessness exists, particularly if the brain is predisposed to undue action. Sound, continuous, unbroken, regular, and uninterrupted sleep is essential to the preservation of the mental and bodily health. Any interference with this important function or state of cerebral rest seriously damages the health of both body and mind.

We cannot too zealously guard against, or too anxiously watch for, the first approaches of this characteristic symptom of incipient brain and mental disorder. Persons predisposed to attacks of cerebral and mental disease ought never to permit a condition of sleeplessness, or even a state of disturbed and broken rest, to continue for many consecutive nights without seriously considering the state of their health.

In the premonitory stage of some forms of acute insanity, particularly *delirium tremens*, the patient is in a constant condition of sleeplessness by night and restlessness by day. His repose at first is broken and disturbed. He slumbers lightly, having only snatches of sleep. If asleep, the slightest noise or ruffle of the bed-clothes awakens him; and when suddenly aroused he looks like a person whose eyes had never been closed.

In conditions of healthy rest the vital energy or nerve force is supposed to be reproduced, evolved, or regenerated in the vesicular neurine, and the individual commences his morning's work, whether it be of a mental or muscular character, with a renewed supply of the powers of life or nervous energy, sufficient to carry him successfully through the day's regular and appointed duties; but the partial and unhealthy snatches of repose obtained in certain states of

brain disorder do not appear to refresh or invigorate the system. In this condition of cerebral activity, irritability, or disease, the grey matter of the brain is incapable of generating normal conditions of *nerve* or *vital* force.

A state of wakefulness is frequently consequent upon an over-worked and agitated brain, and is often seen in persons of a nervous and excitable temperament, who have been exposed to great anxiety. When addressing himself to the importance of anticipating the first dawnings of the cerebral diseases of children, as well as those of adult age, Dr Graves observes—"You will find in patients who are about to have cerebral symptoms a degree of restless anxiety, and a higher degree of energy, than accords with their condition. They either do not sleep at all, or their sleep is broken by startings and incoherent expressions. When a person is spoken to in this state, he answers in a perfectly rational manner; he will declare that he has little or no headache; and were the physician to be led away by a hasty review of his symptoms he would be very likely to overlook the state of the brain. If a close inquiry be made it will be found that *the patient scarcely ever sleeps, or even dozes*—that he is irritable, excitable, frequently incoherent, and muttering to himself. Under such circumstances, although there is no remarkable heat of scalp, suffusion of the eye, or headache, the medical attendant must suspect the supervention of cerebral symptoms, particularly about the ninth or tenth day of the fever (for it is generally at this period that cerebral symptoms begin to manifest themselves), and whenever these premonitory indications are observed the physician should not hesitate to take proper measures to anticipate the evil. In other cases the encephalic symptoms are ushered in by drowsiness. The patient seems otherwise well, *but he sleeps too much*. About the ninth or tenth day he begins to rave, and exhibits un-

doubted proofs of congestion and excitement of the brain. To be put on our guard is to be armed in such cases."*

In some forms of cerebral irritation and capillary congestion the patient feels an intense and overpowering desire to sleep. He experiences a heavy and drowsy sensation, but is unable to close his eyes in slumber for many consecutive minutes. He often continues for hours in this state of semi-sleeplessness or morbid drowsiness without actually sleeping or feeling at all refreshed. This condition of the brain, if permitted to continue for any lengthened period, is productive of much and often fatal mental and bodily mischief.

Cases of what may be termed idiopathic sleeplessness occasionally occur, in which the intellect is not (for a period) in the slightest degree disordered. Persons have been known to remain in this state of insomnia for a long period, never apparently closing their eyes for five continuous minutes in sleep. In one female patient the state of sleeplessness arose from a severe shock which she had received, consequent upon finding her husband in the middle of the night dead by her side, he having retired to bed apparently in excellent health. In this state patients are seldom heard to complain of the want of sleep; they appear to experience none of the usual sensations of bodily and mental fatigue, physical uneasiness and discomfort, which follow ordinary states of partial and incomplete repose.

Persons actively engaged in literary pursuits, whose occupations absorb a large amount of nervous energy, are subject to conditions of insomnia. Paganini rarely slept, so entirely was his mind occupied night and day in his intense passion for music. Boerhaave is recorded not to have closed his eyes in sleep for a period of *six* weeks in

* Clinical Medicine, by Dr Graves.

consequence of his brain being overwrought by intense thought on a profound subject of study.*

The insane are capable of sustaining with apparent impunity and indifference long-continued conditions of sleeplessness. A case is published of a deranged person who was not known to close his eyes in sleep for the period of *three* months. He was in the habit of walking long distances, greatly excited during the day, and at night he never ceased talking to imaginary persons. No form or dose of opium had any effect upon him. Dr Wigan had a patient under his care who did not sleep for fifteen days. He was in the habit of getting up in the night and tiring three horses with galloping, in the vain hope that excessive muscular fatigue might induce a disposition to sleep.

The pathological state of the brain may account for the condition of sleeplessness so often associated with insanity, but in many cases the insomnia connected with mental derangement arises from a complete absorption, abstraction, concentration of the thoughts and pre-occupation of the mind in some terrible and fearful form of illusion, or frightful type of hallucination.

* The question, how long a person can exist without sleep is one oftener asked than answered, and the difficulties of answering the question by experiment would seem to leave it for ever unsolved. A Chinese merchant had been convicted of murdering his wife, and was sentenced to die by being deprived of sleep. This painful mode of death was carried into execution under the following circumstances:—The condemned was placed in prison under the care of three of the police guard, who relieved each other every alternate hour, and who prevented the prisoner from falling asleep night or day. He thus lived nineteen days without enjoying any sleep. At the commencement of the eighth day his sufferings were so intense that he implored the authorities to grant him the blessed opportunity of being strangled, guillotined, burned to death, drowned, garotted, shot, quartered, blown up with gunpowder, or put to death in any conceivable way which their humanity or ferocity could invent. This will give a slight idea of the horrors of death from want of sleep.—*Semi-Monthly Medical News*, Louisville, 1859.

The snatches of transient repose which those so unhappily afflicted are able to obtain,

"Are not sleep,
But a continuance of enduring thought."

"Sleep is one of the functions which among insane patients undergo the greatest changes. It is especially in the period of incubation of insanity that the absence of sleep presents itself as an important symptom. When I interrogate parents on the incipient phenomena of the disease of their relations, they never fail to inform me of the deprivation of sleep as one of the greatest sufferings they have had to endure. One can with difficulty form an idea of the tenacity of sleeplessness in the incipient periods of insanity. The absence of a function so eminently reparative increases the conditions of irritability in which the insane are generally found; and it ordinarily happens that in the confirmed stage of insanity sleep is more and more disturbed. Complete sleep among the insane is seldom observed except in confirmed dementia and in the condition of melancholy with stupor. Even in their convalescence patients often complain of not being able to sleep. In all cases it is frequently interrupted.

"Incomplete sleep is the repose of one of these two orders of sense, and waking of the other; it refreshes much less, but it satisfies nature more, than entire sleep, and I know many men who have no other. Now, when one says that the insane do not sleep, perhaps it is better to say that they are always dreaming, except in their lucid intervals." *

A patient suffering from prolonged insomnia was tortured by the most horrible phantasy that ever racked a poor maniac's brain. She imagined she was compelled to have scorpions, venomous snakes, and reptiles of every

* Morel, p. 458.

description about her person night and day. She, in an agonising tone of voice, begged in most piteous terms that the snakes might be taken from her bed. "I sleep upon scorpions, my bed is full of horrible reptiles, adders are in my pillow and clinging round my neck; for Heaven's sake, I beseech—I implore you, to have compassion upon me, and rid me of this terrible affliction." In language thus touching and affecting would this poor creature earnestly and affectionately appeal to every one who approached her.

In some of these cases no dose of opium, however strong, has a sedative effect upon the brain—

> "Not poppy, nor mandragora,
> Nor all the drowsy syrups of the world,"

will, alas!

> "Medicine to a sweet sleep"

unhappy and perturbed minds so fearfully shattered and shipwrecked.

In some types of insanity the patient is altogether absorbed in the contemplation of a frightful spectral illusion. Under these circumstances he is afraid to close his eyes, from an intense fear of falling a prey to the horrible phantasm created by his morbid imagination, and which he imagines follows him in all his movements. The person so afflicted declares he will not sleep, and resolutely repudiates and perseveringly ignores all disposition to slumber. He obstinately refuses to go to bed or to place himself in a recumbent position. He will battle with his attendant if he attempts to confine him to bed, and insists on remaining in the chair, or standing erect all night, often determinately walking about the room when those near him are wrapt in profound repose. The hallucinations appear to be most exquisitely and acutely vivid when the patient is placed on his back, on account

of the mechanical facilities thus afforded for the blood gravitating rapidly to the affected brain.

When speaking of the attack of insanity with which Southey was afflicted previously to his death, Dr Charles Mackay directs attention to the fact that the poet-laureate's mental illness arose from the loss of sleep that he experienced during the time he was in close and affectionate attendance upon the sick-bed of his wife. Dr Mackay observes, alluding to a visit he had paid to Wordsworth, "I found the bard of the 'Excursion' walking in his garden when I arrived at the Mount; and long and fervently did I admire the beauty of the scene from the lawn before the window, and the calm philosophy and true love of nature that had led him to make choice of such a place, and kept him in such happy and such long seclusion from the busy world. The view of Windermere from his door was the finest I had yet seen; and at another part of his grounds, the view of Rydal Water was combined with that of Windermere, forming, with Loughrigg in front, amid the encircling hills on every side, a landscape of extreme beauty. . . . In speaking of Southey, whose name is so intimately associated with his own, and whose friendship and society he enjoyed for so many years, he dwelt with much emphasis on the long-continued and systematic economy of his time by which he was enabled to vary his studies from history to politics, from politics to poetry, and do more work in each than would have sufficed to make the reputation of half a dozen, even of inferior attainments. At the period of his death, and indeed long before, it was the general opinion that he had tasked his brain too severely by study; that his intellect had become overclouded from excess of mental toil, and that he had laboured 'not wisely, but too well.' Mr Wordsworth, however, upon my putting the question to him, denied that such was the case. Though

Southey's labours were almost superhuman, and varied in a wonderful manner, they seemed, he said, rather to refresh and strengthen than to weary and weaken his mind. He fell a victim, not to literary toil, but to his strong affection for his first wife, which led him night after night, when his labours of the day were ended, to watch with sleepless anxiety over her sick-bed. The strongest mind, as he observed, will ultimately give way under the long-continued deprivation of the natural refreshment of the body. No brain can remain in permanent health that has been overtasked by nightly vigils, still more than by daily labour. When such vigils are accompanied by the perpetually-recurring pain of beholding the sufferings of a loved object, and the as perpetually-recurring fear of losing it, they become doubly and trebly injurious; and the labour that must be done becomes no longer the joy and solace that it used to be. It is transformed from a pleasure into a pain, from a friend into an enemy, from a companion into a fearful monster, crying, like the daughter of the horse-leech, 'Give! give!' It is then that the fine and delicate machinery of the mind is deranged. It is then that the 'sweet bells are jangled and out of tune,' that the light is extinguished, and the glory under a cloud, that Eternity may lift, but not Time. Such, it appears, was the case with the amiable Southey, the grand, if not the great, poet, the accomplished scholar, the estimable man in every relation of life."*

Morbid Disposition to Excess of Sleep.—This symptom is frequently precursory of attacks of apoplexy, and often exists in other forms of disease of the brain caused by poison circulating in the blood. A state of lethargic sleep is one of the peculiar and well-marked signs of

* "The Scenery and Poetry of the English Lakes," by Charles Mackay, LL.D.

cerebral disorder consequent upon functional derangement or chronic organic disease of the kidneys interfering with the free elimination of urea. When this is retained in the blood in consequence of the kidneys not being in a condition to separate and eject it from the system, the brain often becomes seriously involved. Renal delirum of a formidable character arises from this cause.

Coma and the sleep produced by chloroform have been critically examined by M. Flourens. In the former, produced by meningitis, M. Flourens says—"The animal is plunged into a state of profound prostration, but does not sleep; his eyes are generally closed, but at the least cause he opens them; he sees, hears, feels, and undergoes a perpetual shuddering. In the case of the dog, his pulsations, which are in the healthy state 100 to 120 in one minute, become 80 or 90; the respirations are about 24. The animal under the influence of chloroform really sleeps and snores; and neither opens its eyes, sees, hears, nor feels. The sensibility of the whole organism is temporarily suspended. The pulsations are about 60 per minute, and the respirations only 16. In post-mortem examination of the animal which died during coma, the brain was found covered with red spots—that is, by vessels gorged with blood—a state of complete congestion. In the brain of the animal which died through the too protracted action of chloroform there were no red spots, the vessels of the dura mater and the cranium alone being congested. M. Flourens thus describes the difference in the two states:—In the former the congestion is *intra*-cerebral; in the latter it is *extra*-cerebral. This, he says, should be a warning to those who employ chloroform, since there is but one step between extra and intra cerebral congestion.

Morbid Phenomena of Dreaming.—The premonitory

warnings of acute attacks of brain disease, as well as of insanity, occasionally occur during sleep. Patients have complained of being the subject of horrible nocturnal visions and of the severer forms of incubus or nightmare, previously to attacks of apoplexy, cerebritis, and insanity. These are premonitory symptoms of the brain affections of early life. Disturbed and frightful dreams often precede the ordinary indications of acute tubercular meningitis. A patient had for a fortnight preceding an attack of apoplexy a consecutive series of horrible dreams, in one of which he fancied that he was being scalped by Indians. Others have dreamt of falling down precipices, and of being torn to pieces by wild beasts. A gentleman dreamt that his house was in flames, and that he was gradually being consumed to a cinder. This dream occurred a few days before an attack of inflammation of the brain. A person, prior to an attack of epilepsy, dreamt that he was severely lacerated by a tiger. Another epileptic patient, shortly before a seizure, fancied during sleep he was attacked by murderers, and that they were knocking his brains out with a hammer.

For some weeks previously to attacks of acute cerebral disease, patients have been the subject of troubled and distressing hallucinations, occurring between sleeping and waking. Persons who have been attacked by epilepsy, paralysis, and apoplexy, have had for some time previously to their seizures distinct recollection of dreaming of these affections; in fact they appear to have had a clear *presentiment* of their particular disease as well as a prophetic inspiration of their mode of death. Insanity is often preceded by disturbed sleep and frightful nocturnal visions. This abnormal condition of the mind during sleep cannot be too closely watched in all the acute cerebral diseases of children, as well as of adults, particularly in severe attacks of fever occurring in scrofulous constitutions.

Dr Beddoes attended an epileptic patient whose first fit succeeded a dream in which there had occurred to the mind the idea of the person being crushed by an avalanche which he had seen the day before.*

"Many patients, before becoming completely insane, have frightful dreams, and appear as if they were conscious of being on the eve of losing their reason. They often express this sad prognosis, and their anxiety is very great. They start up out of their sleep, pass the greater part of the night in walking about, complaining of suffering intolerable headaches. Some almost dread to go to sleep, so much are their dreams filled with horrible apparitions. In a book attributed to Hippocrates, there are, with regard to

* "In certain respects dreams ought to be attentively studied; natural instinct can, in certain cases, while inciting the imagination to certain ideas, induce useful dreams, containing salutary warnings. Aspasia thus learnt the simple remedy which restored her to health, and it is likewise in a dream that the physician Abin-Zoar had the revelation of a medicine by the aid of which he freed himself from severe ophthalmia. If one, in fact, notices the extreme facility with which the ideas, free from the chain of exterior impressions, associate themselves during sleep, one can conceive how, in the midst of a thousand strange combinations, luminous perceptions sometimes arise.

"One can explain in the same way the marvellous perspicuity of certain dreamers who, under one form or other, seem to foresee diseases of which the germ until then had been latent. Arnauld de Villeneuve dreamt one night that a black cat bit him on the side. The next day an anthrax appeared on the part bitten. A patient of Galen's dreamt that one of his limbs was changed into stone. Some days after, this leg was paralysed. Such was also the case of the woman of whom Gunther has spoken; she dreamt that she was being beaten with a whip. In the morning she bore lesions like scars. Roger d'Oxteyen, knight of the company of Douglas, went to sleep in good health. Towards the middle of the night he saw in his dream a man infected with the plague, quite naked, who attacked him with fury, threw him on the ground after a desperate struggle, and holding him between his open thighs, vomited the plague into his mouth. Three days after he was seized with the plague, and died. Hippocrates remarks that dreams in which one sees black spectres are a bad omen."—*Anatomie Comparée du Système Nerveux, &c.*, par Drs Leuret et Gratiolet. Paris, 1839–57.

the symptomatology of dreaming, indications which are not without interest. Perhaps it is correct to say that, in our days of modern science, this element of diagnosis and prognosis has been too much neglected. Among other prognostications, noisy and animated dreams, according to the father of medicine, are the indication of a state of excitement of the nervous system. Quiet, soft dreams announce a favourable crisis in nervous fevers. Frightful dreams indicate a determination of blood to the head, causing delirium. If a person sees in dreams frightful figures making grimaces, the person is menaced with an intestinal malady or an affection of the liver. Diseases of the internal organs cause in dreaming painful sensations, which relate to the parts affected. Apoplexy is preceded by dreams in which the person believes that he is in danger of perishing. . . . The nightmare announces the concentration of blood in the great cavities of the chest. I mention these principal prognostics because the ordinary subjects of complaint in individuals destined to become insane are associated with sensations of this kind.

"Ecstatic visions during the night often form the prelude to paroxysms of maniacal devotion. It is also sometimes by enchanting dreams and a supposed apparition of a beloved object, that insanity from love breaks out with fury after longer or shorter intervals of reason and tranquillity."*

During the winter of 1849 a medical friend called to see a patient early in the morning. She was the wife of a tailor and mother of three children. At this time she was rather emaciated and debilitated in bodily health, and anæmic in appearance. She was of religious turn of

* "Traité des Maladies Mentales," par le Docteur B. A. Morel. Paris, 1860.

mind, and belonged to the Wesleyan persuasion. On the morning of the narrator's visit he found the woman in a state of great mental excitement, and under the influence of hallucinations. She had gone to bed apparently well, but during the night was the subject of a vivid dream, imagining that she saw her sister, long since dead. and to whom she was very much attached, suffering the pains of hell. When quite awake no one could persuade her that she had been under the influence of an agitated dream. She stoutly persisted in maintaining the reality of her vision. During the whole of that day she was clearly insane; but on the following morning the mind appeared to have recovered its balance. She continued tolerably well mentally for four years, with the exception of her occasionally having moments of despondency, arising from real or fancied troubles. At the end of the fifth year she gave birth to a child. Seven months afterwards she went to bed apparently as well as usual. In the middle of the night she got up without appearing to know what she was doing, and cut her child's throat with a razor. The wound, however, was not fatal. When requested to explain why she had attempted the life of her child, she replied that she had been ordered during the night to murder all her children as well as herself. When taken into custody she expressed no regret for what she had done, but appeared to entertain a great fear of punishment. During the night of the murder her husband states that she was unusually disturbed. It is conceived that the hallucination which led to the commission of the murder occurred during a dream. This woman was tried, and acquitted on the ground of insanity.

Suicide has been committed under analogous circumstances. A person apparently well has gone to bed without manifesting the slightest tendency to self-destruction, and

being suddenly aroused from a frightful dream, has destroyed himself.

An old lady residing in London awoke in the middle of the night, went down stairs, and threw herself into a cistern of water, where she was found drowned. The suicide was supposed to be the result of certain mental impressions originating in the mind during a troubled dream.

Dr Pagan refers to the following interesting case to prove that murder may be committed by a person when under the effects of a frightful vision :—

"Bernard Schedmaizig suddenly awoke at midnight; at the moment he saw a frightful phantom, or what his imagination represented to be—a fearful spectre. He twice called out, 'Who is that?' and receiving no answer, and imagining that the phantom was advancing upon him, and having altogether lost his self-possession, he raised a hatchet which was beside him and attacked the spectre, and it was found that he had murdered his wife, then lying by his side."*

A pedlar, who was in the habit of walking about the country armed with a sword-stick, was awakened one evening while lying asleep on the high road by a man suddenly seizing him and shaking him by the shoulders. The man, who was walking by with some companions, had done this out of a joke. The pedlar suddenly awoke, drew his sword, and stabbed the man, who soon afterwards died. He was tried for manslaughter. His irresponsibility was strongly urged by his counsel on the ground that he could not have been conscious of his act in the half-waking state. This was strengthened by competent medical witnesses. He was, however, found guilty, and, I think, most unjustly punished.†

* "Medical Jurisprudence of Insanity," by Dr Pagan. London, 1840.

† Medico-Chirurgical Review.

CHAPTER XXIV.

MORBID PHENOMENA OF ORGANIC AND NUTRITIVE LIFE.

THIS division of the subject will be briefly considered in the following order :—

α. *Digestion and Assimilation.*
β. *Circulation.*
γ. *Respiration.*
δ. *Generation.*

DIGESTION AND ASSIMILATION.—Owing to the intimate sympathy existing between the brain and stomach, the physician is usually able to detect, in association with cerebral diseases, functional disturbances of the digestion and nutrition, often giving rise to serious complications. These symptoms, however, are often altogether overlooked in consequence of their being masked by the more prominently developed signs of mental disorder.*

* Willis, as quoted by Morel, says Dr Griesinger, relates a remarkable case of a lady whose health had been injured by profound grief. One day, after having eaten a very indigestible cake, she was seized with a feeling of burning heat in the precordial region. There followed an instantaneous sensory delirium. She imagined that the upper part of her body was on fire. She took a spring and precipitated herself into the street, crying out that she was cursed by God, damned, and that she already was experiencing the punishments of hell. The same delirium was reproduced as soon as this lady experienced similar physical sensations.

In the early stages of insanity the stomach exhibits great functional derangement. The appetite fails, the powers of digestion become impaired, the secretions vitiated, the liver disordered, and the bowels act with great irregularity or are obstinately costive. The gastric affection is recognised by fœtid breath, coated tongue, loss of appetite, in some cases amounting to loathing of food, deficient hepatic secretion, and great depression of spirits. The patient complains of flatulence, cardialgia, and acidity of the stomach. Occasionally there is extreme nausea, and often actual vomiting. Constant sickness, when it cannot be clearly traced to the influence of poison, morbid conditions of the uterus, kidney, or stomach, is significant of functional or organic disease of the brain, particularly when allied to headache, vertigo, illusions or hallucinations, and other indications of cerebral and mental disturbance.

In tumours of the brain the patient often has not only irritability of the stomach, but a frequent disposition to vomit. This nausea in a remarkable manner resembles that preceding or accompanying sea-sickness. The invalid is rarely if ever actually sick, but he constantly feels so. This sensation is occasionally observed more prominently manifested on first rising in the morning; when washing or shaving, he will be suddenly stopped by an inclination to vomit.

Nausea not amounting to actual vomiting is occasionally symptomatic of acute and chronic softening of the brain. It often indicates the commencement of inflammatory and congested encephalic conditions. In the obscure cerebral diseases of children the presence of irritability of the stomach, clearly not the effect of gastric or intestinal derangement, is an important symptom.

Chronic disorders of the digestive organs frequently pre-

cede, and are associated with, if they do not operate as the direct cause of various types of mental derangement. A morbid state of the liver, stomach, and bowels is seen prominently manifested in all forms and degrees of insanity. These gastric disturbances and visceral complications are often observed in an advanced position throughout the whole course of the malady. They give character and persistence to the mental impressions. In consequence of these physical derangements patients are often led to believe that they have been or are being poisoned, and under such delusions obstinately refuse to take food. In these cases there is generally serious disorder of the stomach, disease of the liver, or chronic irritation of the mucous membrane of the bowels. The breath is fœtid, the tongue furred, the secretions vitiated, bowels inactive, and the appetite either altogether lost or extremely vitiated.

"The refusal to take nourishment," says M. Morel, "often depends upon a disordered condition of the digestive organs. The truly wonderful obstinacy with which certain insane persons refuse food is, however, most commonly caused by their delirious ideas, such as a fear of poison and a desire to die of hunger in obedience to an order given them by a superior power." M. Morel relates the case of a lady whom he had to feed for several weeks by means of the stomach-pump, who refused to eat voluntarily, under the influence of an illusion that the food placed before her was composed of the flesh of her murdered children.

"Some insane patients complain of a fire that devours them, and sometimes of an icy coldness which paralyses the peristaltic action. They are subject to borborygmus and flatulence. All the phenomena which men enjoying their reason bring easily to a right interpretation, become among hypochondriacs the starting-point of the most strange illusions. They have in their intestines unclean animals

who gnaw them—some even pretend to have neither stomach nor intestines. It seems to them that all they eat falls down a bottomless gulf. One patient imagines that she ought no longer to eat or speak. Her body no longer exists—it is one composed of shapeless fragments, which have no cohesion between them. Also her clothes are not attached to her person, and she constantly experiences a most painful sensation for a modest woman—she believes that she is going to be exposed naked to public view."*

The presence of worms in the stomach and intestines often creates an uncontrollable indisposition for food. Chronic inflammation, and sometimes ulceration of the bowels, have been known to produce analogous symptoms.

The appetite is frequently seriously vitiated and depraved. The patient has a morbid craving and never-satisfied desire for food. His hunger cannot be appeased. After eating an enormous meal he will emphatically declare that he has been starved, or had either the smallest amount of nutriment or none at all. A vitiated state of the appetite is shown by the patient eating with an apparent relish, or at least indifference, the most repulsive and disgusting matters. The sense of taste in these cases occasionally appears to be completely paralysed.

In the incipient stage of insanity the assimilative functions are often seriously disordered. Hence the emaciation so often observed to accompany, not only the commencement of insanity, but of various organic diseases of the brain uncomplicated with aberration of mind.†

* Morel.

† All disorders of the nervous system, particularly those implicating the intelligence, have a damaging influence upon the function of *nutrition*. In cases of anxiety of mind, how often does the general health become seriously impaired, and the assimilative powers completely paralysed. In the incipient stage of insanity the nutritive functions appear occasionally

As the mental disorder advances, the function of nutrition is occasionally restored to a healthy state, and the patient not only gains flesh, but becomes *embonpoint.* This condition is often observed in chronic insanity, and in other cases where the patient is less sensitive to the destructive effect of his insane delusions. He ceases to be worried and vexed by his morbid ideas, and an improvement in the digestion and nutrition takes place. If the mental does not proceed *pari passû* with his physical restoration, an unfavourable prognosis is to be entertained. But even under these discouraging conditions patients occasionally recover.

MORBID PHENOMENA OF CIRCULATION, RESPIRATION, AND GENERATION.—Considering the close organic sympathy between the heart and brain, it may, *à priori,* be inferred that in all affections of the great nervous centre, the cardiac functions would almost invariably exhibit marked deviations from a normal state. In the writings of Morgagni, Baglivi, Lieutaud, and Corvisart, this subject is but cursorily referred to. Although the latter authority affirms that he has never seen an instance of apoplexy that can be clearly traced to cardiac disease, he is, nevertheless, of opinion that the cases recorded by Testa, Laurent, and the other writers previously mentioned, "*suffisent pour établir qu'une affection du cœur peut devenir la cause determinante de l'apoplexie.*" Richerand is said to be the first writer who pointed out pathologically the intimate connexion between encephalic and cardiac disorders.

This distinguished physiologist says—"The dissection of patients who have died of apoplexy has proved to me that the excess of force in the left ventricle of the heart is a

altogether suspended. The patient, long before attention is called to the state of the mind, loses flesh, and is occasionally reduced to a dangerous state of emaciation and inanition.

more powerfully predisposing cause of the disease than a large head and short neck—a state of body which is supposed by most physicians to indicate the apoplectiform conformation." *

In a Mémoire read by Richerand before the *Ecole de Médecine*, he refers to the case of the illustrious Cabanis, who died of apoplexy caused by, or associated with, disease of the heart. The autopsy of this distinguished philosopher revealed extensive cardiac disease. The left ventricle was enormously enlarged and hypertrophied. Eight ounces of blood were effused into the ventricles of the brain, and this effusion had been so violent that the septum lucidum was torn through, and the surface of the thalami and corpora striata made rough and jagged. Malpighi and Ramazzini died of apoplectic attacks connected with hypertrophy of the heart.

At a later period Lallemand, Broussais, Andral, Bouillaud, Bertin, and Rochoux have directed attention to this subject. MM. Bertin and Bouillaud remark that "the majority of the patients in whom hypertrophy of the left ventricle of the heart is present, will be found to exhibit symptoms of cerebral congestion, and that many of them will fall victims to disease of the brain." †

Important as this subject is to the practical physician as well as physiologist, it is not my intention to enter minutely into its analysis. It is sufficient for my purpose to call attention to the fact, reserving for the succeeding volume any detailed remarks I may have to make in reference to the influence exercised by certain affections of the heart upon various functional and organic diseases of the brain.

There can be no doubt among those whose duty it is to

* Nosographie Chirurgicale, vol. iii.

† Traité des Maladies du Cœur.

investigate the disorders of the mind in all their numerous phases, that cardiac disease exercises a material influence over the functions of the cerebrum. How common it is for the physician, whilst performing his autopsies in acute and particularly chronic cases of insanity, to discover apparently long-existing organic disease of the heart, especially in its valvular structure.

M. Falret, of the Hospice de la Salpêtrière, has published the results of his dissections in ninety-two cases of chronic mania. In twenty of these there were "*des lésions diverses du cœur, coincidant avec des altérations chroniques du cerveau, ou des membranes cérébrales.*"

Morel, when referring to the connexion between the central circulatory system and cerebral disease, observes "that the affections of the heart enter largely into the etiology of mental affections." A patient under his care, subject to maniacal paroxysms, imagined that an animal was confined in his chest devouring his heart. After death, hypertrophy of this organ was discovered, with valvular disease interfering with the free passage of the blood through the auriculo-ventricular orifice. These organic changes in the substance of the heart, as well as in its valves, if associated with insanity, give rise to great difficulty of respiration, headache, restlessness, insomnia, and severe paroxysms of irritability. These symptoms are often combined with great œdema of the extremities. Morel adds—"I have observed among such patients the periodical return of strange ideas, hypochondriacal sensations, and often spectral hallucinations, which arise from the increase of the impediment to the circulation and the cerebral congestion which is the consequence of it. These hallucinations are usually of a terrifying nature." "It is known," says M. Saucerotte, "what a powerful shock the beating of the arteries occasions to the encephalic mass, and one conceives,

à priori, what disorder might be caused to the intelligence if they were repeated with abnormal frequency on the organ destined to elaborate the ideas. We are bound also to consider the effect thus produced in the physiological stimulation and nutrition of the brain. The blood, altered in its character, and hurried or impeded in its course through the cerebral vessels, must produce profound modifications in the nervous tissue of the organ of thought."

In the early stage of insanity the pulse occasionally indicates activity of the centre of circulation, but more generally the action of the heart is feeble, and the state of the radial artery establishes the presence of great vascular, vital, and nervous depression. This condition of the pulse is quite compatible with a considerable amount of acute mental agitation and muscular violence.

In making this examination it is important to note that there is considerable difference in the action of the radial, carotid, and temporal vessels, as well as in the intensity of the pulsation of the ascending and descending aorta. Jacobi has called particular attention to this fact.

RESPIRATION AND GENERATION.—There are no special morbid conditions of the respiratory function which can be considered symptomatic of incipient insanity, or as indicative of the commencement of organic cerebral disease. The lungs are, no doubt, in close sympathy with the brain, and in many cases of mental alienation the two organs in a marked manner reciprocally influence each other. The autopsies of the insane often reveal extensive disorganisations of the substance as well as investing membrane of the lungs, which have seriously complicated the psychical disorder, and interfered with the satisfactory progress of the case.

The generative functions, in some forms of cerebral disorder, are exalted, and the patient is constantly troubled

by painful priapism. In other states of the brain and nervous system they are perverted, impaired, or altogether paralysed. Insanity of a senile type is known to develope itself by a sudden and unnatural manifestation of virile inclination and capacity at a period of life when this function is generally considered to be in abeyance. But this important subject, in all its numerous ramifications, physiological, pathological, and psychological, will be analysed *in extenso* when I proceed to consider, in the succeeding volume, the obscure diseases of the cerebrum, but particularly the *cerebellum*, as influencing, directly and indirectly the reproductive organs.

CHAPTER XXV.

GENERAL PRINCIPLES OF CEREBRAL PATHOLOGY.

THE obscurity that envelopes the pathology of the brain is admitted by every writer. How vain and illusory would it be were I to attempt to embody in a few pages anything approximating to an accurate conception of the numerous changes, functional and organic, which the brain, appendages, and vessels are susceptible of, and which are known to give rise to a variety of types of cerebral disease and mental disorder.

Let me cursorily glance at the pathology of the brain as elucidating the phenomena of incipient insanity. Is there any *one* condition of the encephalon or its membranes pathognomonic of mental derangement? It will be well to consider, before attempting a reply to this question, the variety of theories propounded by eminent and experienced pathologists with the view of elucidating the cerebral or somatic origin of insanity. A short historical *resumé* of the kind proposed will enable the reader to appreciate the difficulties surrounding this important branch of pathological science.

Morgagni considered insanity to be more immediately connected with hardening and softening of the brain. Greding refers principally to thickening of the cranial

bones, softening of the brain, and atrophy of the thalami. Broussais asserts that insanity is the result of irritation of the brain. Gall and Spurzheim attribute insanity to encephalitis, acute and chronic. Pinel considered mania to be the result of excessive exaltation of the nervous energy. He affirms that cerebral lesions are but the effect of the insanity, and are frequently altogether unobserved. He is also of opinion that insanity frequently arises from visceral complications. Delaye and Foville attribute alienation to inflammation of the superficies of the grey matter of the brain. Fodéré imputes insanity to an alteration of the vital principle. Defour endeavours to establish that the brain has directly no connexion with insanity. According to his theory, alienation of mind is consequent upon some affection of the nervous ganglia of the abdomen. Leuret, Baillarger, and Brierre de Boismont appear to be of opinion that insanity does not arise from any specific disorganisation of the brain or its membranes, but that in all cases cerebral disease of some kind exists. Grandchamp, Bayle, and Calmeil are of opinion that the brain is always diseased in insanity. Rodriguez recognises three kinds of disease of the brain which give rise to insanity, viz. :—1. Hypertrophic hardening ; 2. Inflammatory hardening ; 3. Atrophic or serous hardening. The first and third class he believes generally affect the whole cerebral mass. The second is only partial in its operation, and is characterised by change of colour. Rush, the distinguished American authority, traces insanity to a disordered state of the blood-vessels. Haslam refers principally in his *post-mortem* data to adhesions of the Pacchionian glands, alterations in the membranes of the brain, and softening of the cerebral pulp. Cox ascribes insanity to determination of blood to the head. Arnold and Parry trace insanity to determination of blood to the brain, or increased activity of the

cerebral vessels. Cullen considered that insanity arose from some irregularity in the action of the brain or nervous system, and that in the majority of cases derangement was caused by cerebral excitement. Sir Alexander Crichton was of opinion that insanity was caused by a specific morbid action of the vessels which secrete the nervous fluid, affecting not only its quality but quantity.

The question more immediately in review is, whether there are any specific and clearly definable characteristic organic alterations in the tissue of the encephalic mass, its membranes, osseous investment, blood-vessels, &c., invariably present in insanity, that can be considered to stand in relation of cause and effect. If the substance of the brain be universally implicated in all cases of alienation of mind, is there any uniformity in the organic change ?

There can be no doubt entertained by those who have had practical opportunities of observing and treating the varied phenomena of mental derangement, that in many instances the disease clearly arises from a state of capillary congestion on the surface of the hemispherical ganglia or in the vessels ramifying over the membranes immediately in contact with the brain. Hence the great relief so frequently obtained in certain types of acute incipient insanity by the judicious local abstraction of a small quantity of blood from the head, unless contra-indicated by the state of the pulse and general condition of the nervous system. There are, however, many phases of morbid alienation of thought not dependent upon an inflammatory or even a congested state of the brain, and which do not admit of antiphlogistic treatment. Cases occur associated with wild, violent, and ungovernable excitement, and characterised by active delirium apparently unconnected with any appreciable deviation from a normal state of the skull, brain, meninges, or vessels. I

have often been much surprised, when examining the heads of patients who have died from the effects of acute insanity, by the remarkable absence of even an approximation to an *adequate* physical cause for the fatal mental disorder.

Such types of insanity must either be connected with subtle changes in the vesicular neurine, of which we at present have no knowledge, and which are not even appreciable by means of the microscope, or arise from an altered condition of blood, nerve force, or chemical constituents of brain matter, of the nature of which physiologists are as yet profoundly ignorant.

These forms of derangement of mind, when they cannot be traced to alterations of nerve *tissue*, or to the influence of some destructive poison retained in the system and floating in the blood, seriously damaging the nutrition of the brain, may depend upon a disordered condition or altered action of the *psychical co-ordinating principle* evolved in the cerebrum, which (when the brain is free from a material change, and the mind not disordered), preserves intact the unity of action and normal balance of the intellectual powers. This I term a *choreic* phase of insanity. No doubt, in many cases of mental disorder, the encephalon is in a state of nervous irritation, innervation, hyperæmia (active and passive). In instances of intense exaltation of mind (resembling, in many of their features, violent and ungovernable passion), with or without aberration of the ideas, apparently untraceable to physical molecular alterations in the structure of the brain, its membranes, or to derangement in other organic portions of the body in intimate sympathy with the sensorium, the condition of the mind may be either one of cerebral irritation, or, if I may coin a phrase, psychical hyperæsthesia.

I designedly avoid entering into a consideration of those subtle changes in the grey matter of the brain, the effect of

irritation, congestion, or inflammatory action, recognised by slight variations in the colour or tint of the cineritious matter of the hemispheres, or to those organic alterations in the structure of the dura mater, tunica arachnoidea, or pia mater, as well as the formation of adventitious membranes so often observed after death in cases of insanity. I also defer for subsequent consideration certain morbid conditions of the blood, disease of the cerebral arteries, affections of the heart, liver, lungs, and kidneys, as well as visceral complications, so often seen in association with various types of mental alienation.

I have previously addressed myself briefly to the pathology of general paralysis, as well as to those conditions of the brain which usually accompany ordinary attacks of apoplexy, softening, and hemiplegia. In the former affection the following pathological phenomena are generally more or less appreciable after death:—Albuminous jelly-like effusion in the cavity of the arachnoid; false membranes on the convexity of hemispheres; suppurative meningitis; pus between the folds of the arachnoid and the pia mater, different from the ordinary character of pus (white, and composed of irregularly-formed globules, smaller than those in pus detected in other parts of the body); hyperæmia of the brain; pulp red, injected, and slightly tumid, and when sliced small points of blood appearing; softening of brain, superficial or deeply seated, or partial diminution in the consistency of the grey matter of the hemispheres, appreciable by the aid of the microscope; alterations in the colour of the brain, varying from red, deep brown, pale green, and yellow; induration of the brain; organic alterations in the membranes of the brain, of the character of chronic meningitis; subarachnoid effusion; injected as well as indurated condition of the medullary portion of the brain; effusion into the ventricles, delicate

layers of coagulable lymph over the cineritious substance of the brain; highly congested state of the cineritious neurine; thickening, opacity, and engorgement of the meninges; marble-like appearance of the white substance of the brain; atrophy of the convolutions; fatty degeneration of the cerebral vessels; organic changes in the pons varolii and medulla oblongata; œdematous state of the brain.

I do not propose to go at any length into a consideration of the pathology of apoplexy, hemiplegia, or what is termed red and white softening of the brain. All these organic affections are so closely and intimately allied, that it would be impossible to analyse one without reviewing the morbid phenomena characteristic of the other encephalic conditions.

Softening of the brain is frequently followed by apoplexy and hemiplegia. The latter disorder, when consequent upon the rupture of one of the cerebral vessels (the effect of extravasation of blood), often gives rise mechanically to a pulpy disorganisation of the brain immediately connected with and surrounding the clot.

In what may be termed idiopathic ramollissement, the effect of disordered states of cerebral nutrition, known by the name of gangrene of the brain, and occasionally in that type of pulpy disorganisation the result of inflammation, acute and chronic, of the substance of the encephalon, the numerous vessels are often in a diseased condition, caused by a deposition of osseous matter on their internal coats, thus producing an interruption to the free admission and circulation of blood through the brain, and arresting the supply of nutrient food to this organ.*

* "The deposits in the arteries produce a twofold influence upon the circulation. By roughening the inner surface of the arterial channels, they create a certain amount of direct obstacle to the flow of blood from the ventricle; and by diminishing, or nearly destroying, the elasticity of the arterial walls, they impair one of the most important forces by which

If the cerebral vessels be not themselves diseased in the first instance, they often become so after being for some time embedded in a mass of softened brain. The tissue of this organ in cases of severe ramollissement is occasionally pulpy and diffluent in character, being of the consistence of cream.

When describing cases of hemiplegia occurring in the manner previously narrated, Dr Todd remarks—"That the diseased blood-vessels lie in the midst of this pulpy mass without undergoing any further change; but sooner or later under some mental emotion, or during some increased

the circulation is carried on in the arterial system. Thus the arteries, from being elastic yielding channels, with perfectly smooth inner surfaces, are changed into resisting inert tubes, with rough inner surfaces. It is plain, then, that under these circumstances the heart has to encounter great obstacles, and to do a great deal more work than when the arteries are in their normal state. Hence the dilatation caused by the obstacle to the free flow of the blood; and the hypertrophy, by the greater exercise and effort of the muscle of the heart. The increase of force is merely remedial, to meet the increase of obstacle, and is one of those beautiful instances of self-adaptation to change of circumstances with which the animal organism, especially the muscular system, so much abounds.

"As these deposits go on, they impair the materials of the arteries of the brain; the degenerated walls of these vessels possess less strength, and are less able to support their contents. There is no undue determination of blood to the brain, but the reverse, for the blood that goes to the head has, in the erect posture, to be pumped up against the force of gravity; and therefore any obstacle in the course of the arteries would be more felt in this direction than in any other. It is a common notion that the hypertrophy of the heart gives rise to apoplexy by sending the blood with an undue impulse to the head; but for the correction of this error we need only remember that the additional force is merely such as is necessary for the exigencies of the circulation, and such as shall preserve the force of the blood's current as near as possible to the normal point, in spite of the existing obstruction. The actual force with which the blood circulates in the morbid arteries is, most probably, less than in health. The apoplexy is, in fact, due to the diseased state of the arteries, which renders their walls an inadequate support to their contents, and to the diseased state of brain, which imperfectly supports the arteries."—*Clinical Lectures*, by Dr Todd, p. 115.

heart's action, depending either upon mental emotion, upon derangement of the digestive organs, some bodily exertion, or increased mental effort of any kind, the blood is sent with undue force or in unusual quantity into the vessels, and in consequence the vascular canals in the pulpy portion of the cerebral tissue, being deprived of their usual support, give way, and the blood is effused into the softened part of the brain, which it breaks up, and the more readily in consequence of its already diminished consistence. This is the rationale of the development of many an attack of apoplexy, from which the patient may or may not recover, according to the extent of the brain previously softened, and according to the amount of blood effused."*

In considering the subject of cerebral pathology, very erroneous conclusions would be arrived at if the physician were to exclusively confine his attention to an examination of the contents of the cranium. Such a course of investigation would indeed lead him in pursuit of an *ignis fatuus*. Close and intimate is the sympathy, indissoluble and inseparable the connexion, between the material instrument of thought and other vital and organic structures.

Hypertrophy, atrophy, and valvular disease of the heart; chronic irritation of the mucous membrane of the bowels and stomach (often the effect of protracted dyspepsia); morbid conditions of the blood; impaired powers of assimilation; pulmonary affections; hepatic disease (acute and chronic); nephritis, granular degeneration, or other types of renal disorder interfering with the elimination of urea, play an important part in the pathology of cerebral and mental affections.

No analysis of the anatomical characteristics of the

* "Clinical Lectures on Paralysis, Disease of the Brain, and of the Affections of the Nervous System," by R. B. Todd, M.D., F.R.S. London, 1854, p. 129.

cerebral diseases previously referred to could be viewed as satisfactory or complete that did not embrace a full consideration of the morbid conditions of other structures in close organic sympathy with the great centre of the nervous system.

I have yet to refer to the more recent pathological discoveries relative to EPILEPSY, PROGRESSIVE LOCOMOTOR ATAXY, GLOSSO-LARYNGEAL PARALYSIS, and APHASIA. These morbid affections I have described in a previous chapter.

With respect to Epilepsy, Dr Hughlings Jackson, adopting the theory first propounded, I believe, by Kussmaul and Tenner, and subsequently by Brown-Sequard, suggests that the phenomena observed in this disease result from a sudden temporary interruption of the blood-current through one or more branches of the cerebral arteries *by spasm of their muscular walls*, so that the brain tissue, within a circumscribed arterial region, having its nutritive supply arrested or limited, would suffer a suspension or impairment of its proper functions. Dr George Johnson considers this to be a very probable explanation of the curious phenomena observed in an epileptic convulsion. He says :—"It is a matter of general observation that, at the very commencement of an epileptic fit, the face is pallid. There is anæmia of the superficial vessels, and with this there is probably associated anæmia of the intra-cranial vessels which supply the brain itself. The pallor is in most cases soon succeeded by lividity, owing to venous engorgement consequent upon the impeded respiration and pulmonary circulation. It is very remarkable that, while the face is pallid, the heart and the carotids are beating strongly. It is probable, therefore, that there exists some impediment to the flow of blood through the minute branches of the arteries. To explain this impediment

Kussmaul and Tenner suggest that the minute arteries, both the superficial and the intracranial branches, contract so as to bar the passage of blood. Hence arise the pallor of the face and the epileptic convulsion. In some cases it is said that the face is more or less livid at the very commencement of the fit. The probable explanation of this is, that the respiratory muscles are convulsed and there is a consequent venous turgescence before the spasm affects the facial arteries. The spasm of the *facial* arteries, though usually present, is obviously not the cause of the fit. The early implication of the respiratory muscles is clearly shown in those cases in which the 'epileptic cry'—a result of spasm of the glottis—is the first indication of the fit.

"Kussmaul and Tenner endeavoured to support the theory of arterial spasm by experiment, and to some extent they succeeded. In each of three white rabbits they ligatured the two subclavians and one carotid; the cervical sympathetic was then exposed and galvanised, with a view to excite contraction of the arteries by the stimulus conveyed through the vaso-motor nerves. In two animals no effect was produced; but in the third rabbit the background of the eye became completely pale; the pupil dilated, so that the iris could scarcely be seen; the neck was drawn back, and violent convulsions occurred. The electrodes being removed, the spasms ceased, the pupil contracted, and the background of the eye became red; but the animal continued in a swooning condition. After some minutes electricity applied to the sympathetic nerve produced the same effects as at first. A third attempt did not succeed.

"The authors suggest that these experiments deserve repetition, with the view of rendering certain what at present is probable—namely, 'that epileptic convulsions can be brought about by contraction of the blood-vessels induced by the vaso-motor nerves.'

"According to this theory, then, epilepsy is a result of sudden anæmia of the brain; and this anæmia, when not caused by hemorrhage or by a mechanical impediment to the circulation outside the cranium, is due to an extreme contraction of the minute cerebral arteries. With reference to this theory of arterial contraction, all cases of epilepsy may be arranged in two distinct classes—1. Cases in which the arterial contraction is the result of a purely nervous or reflex influence; 2. Cases in which the arterial spasm is a result of blood-poisoning.

"In the first class are included all cases of epilepsy which are due to emotional influence, sudden terror, or anger, or long-continued anxiety and sorrow, perpetuated and intensified often by nocturnal dreams and frequently recurring nightmare; also cases associated with those disordered states of the nervous system which are the result of vicious sensual habits; cases, too, in which the disease is hereditary. This class also includes cases of epileptic convulsions from the irritation of the gums during dentition; of the kidney, or the ureter, or the gall-duct, by a calculus; and of the alimentary canal by worms. Again, the cases in which convulsions result from tumours or other organic disease of the brain are included under the head of epilepsy from a reflex influence. The structural change in the brain is not the proximate cause of the epilepsy; it excites the epileptic convulsions through a secondary reflex influence upon the blood-vessels."*

Such, according to Dr Hughlings Jackson, Dr George Johnson, and other pathologists, is the immediate and exciting cause of epilepsy; but this distressing affection is known to be the effect of a variety of other morbid states of the brain, its investing membranes, and cranial covering,

* A Lecture on the Pathology and Treatment of Epilepsy. By George Johnson, M.D. London, 1868.

which are discovered after death; such as tumours, cartilaginous or bony, in the substance of the brain, or osseous deposits in the arteries ramifying through it; hardening of the brain; disease of the internal table of the cranium, the result of syphilis; chronic changes in the membranes of the brain. In many cases of chronic epilepsy, the only pathological change detected at the *post-mortem* examination has been a general condensation of the brain matter not amounting to what is understood by the term, induration. The cerebral substance has in many of these cases a waxy appearance; the encephalon has lost its normal state of consistence in consequence of the various laminæ becoming morbidly united. This change is particularly observed in the brains of the insane who have been for many years subject to epilepsy.

The pathology of PROGRESSIVE LOCOMOTOR ATAXY is very obscure. This affection is supposed to be the effect of a lesion in the posterior columns of the spinal cord, but this theory has not been satisfactorily established, for no material change in these parts has been detected when brought within the range of the microscope. No doubt, after death an abnormal vascularity of the posterior columns of the cord, the motor oculi, optic nerves, and the tubercula quadrigemina is discovered, the result, as Trousseau suggests, of frequently repeated congestions. In a typical case of locomotor ataxy described by Dr Duchenne, gelatiniform degeneration of the posterior columns of the cord, and atrophy of the posterior roots, were diagnosed before death, but the only pathological condition discovered in the *post-mortem* examination was a generally injected state of the spinal cord.

Pathological anatomy establishes that the lesion existing in GLOSSO-LARYNGEAL PARALYSIS is primarily seated in the upper portion of the spinal cord and the motor roots.

In many cases there is found after death atrophy of the roots of the motor nerves—viz., the hypoglosso, spinal accessory and spinal nerves, the probable result of chronic congestion causing, as Trousseau imagines, the gradual disappearance of the nerve tube and hypergenesis of the connective tissues and neurilemma of the motor roots. The spinal cord is also found in a congested state.

Having addressed myself at considerable length to the consideration of the pathology of aphasia in a preceding chapter, it will be unnecessary for me here to recapitulate what I then said.

CHAPTER XXVI.

GENERAL PRINCIPLES OF DIAGNOSIS.

By what general principles is the physician to be guided when attempting accurately to discriminate between mental aberration and those abnormal states of thought and erratic flights of fancy which so closely resemble, in many of their modes of manifestation, alienation of reason? Is mental psychology a certain and exact science, and are its *data* so clearly established, and the conclusions deduced therefrom so accurately defined, as to enable the physician to speak with confidence and authority of the presence or absence of aberration?

Is it possible clearly to discriminate eccentricity, vice, and crime from insanity, or to fully appreciate the precise position of the frontier that marks the boundary between extraordinary departures from ordinary modes of thought and conduct (consistent with sanity and responsibility of mind), and those deviations from states of thinking and action utterly irreconcilable with the hypothesis of mental soundness?

When does violent and ungovernable passion become symptomatic of psychical disorder, and what extent of brutality, prodigality, cruelty, parsimony, revenge, and jealousy is compatible with intellectual sanity? When does an idea which has acquired an influence over the

imagination, obviously incommensurate with its value, cease to be healthy in its character, and become a monomaniacal conception?

Admitting the difficulties that undoubtedly surround a solution of these subtle questions, I am, nevertheless, of opinion that the carefully, cautiously observant and practically-educated physician will encounter no serious impediment in his attempt to distinguish between actual disorder of the mind and other states of intellect, emotion, and conduct generally supposed to be allied to it. The boundary line separating morbid from analogous states of eccentric thought, is no doubt occasionally obscure, faint, and shadowy, and cases of suspected alienation of mind occur which puzzle and confuse the most sagacious and experienced psychologists.

I have elsewhere spoken of the impossibility of defining insanity, and briefly pointed out not only the rules that should guide the physician when called upon to investigate a subtle and complex case of morbid thought, but the serious error that would be committed if he, whilst making an analysis of such types of mental unsoundness, were to restrict himself to a consideration of the *then* manifested state of intellect, utterly disregarding the normal psychical development and ordinary modes of thinking and action generally characteristic of the person whose sanity is under consideration.*

As a general rule, derangement of mind, whether it consists in a vitiation of the mental, emotional, or moral element, or exhibits itself in actions different from those generally considered to be the effect of a sane, well-governed, and rightly-balanced understanding, ordinarily manifests itself by a marked deviation from *natural* states

* "Lettsomian Lectures on Insanity," and the "Pleas of Insanity in Criminal Cases," by the Author.

of *thought* and *normal* modes of *conduct.* I have entered at length into an analysis of this subject in a former part of this volume, and to the remarks there made I refer the reader.

There are three affections of the cerebro-spinal system with which insanity is likely to be confounded—viz., 1. A state of depression, or a condition of hyperæsthesia of the nervous functions, generally designated nervous disorder; 2. Delirium tremens; 3. Ordinary attacks of congestion of the brain; 4. Meningitis; 5. Acute and chronic encephalitis.

It has been ignorantly asserted that all disorders of the nervous system are *degrees* of insanity. If such a *dictum* were to be universally admitted and generally acted upon, how mischievous and sad would be the consequences! There is a vast amount of nervous derangement of a very formidable and distressing character, which has no pathological or physiological connexion with or relation to mental derangement.

In the chapter on the morbid phenomena of conscious insanity are detailed several illustrations of this type of incipient alienation of thought. This state of unhealthy apprehension of the approach of insanity very often exists as a *nervous disorder*, without being complicated with or passing into a phase of mental derangement. I have seen many remarkable examples of the kind in connexion with various forms of acute hysteria.

There are other affections of the nervous system that resemble in many of their features mental alienation. In such cases there is often great emotional exaltation, perversion of the instincts, confusion of thought, exaggeration closely bordering on aberration of ideas, as well as great eccentricity of conduct. Such symptoms may exist independently of insanity as a distinct type of nervous disorder. It is only when the mind exhibits signs of positive alienation, manifested by the presence of delusion associated

with a paralysis of the controlling power of the will, that we can satisfactorily affirm that insanity, in the right acceptation of the term, is clearly and unmistakeably exhibited. I do not affirm that a delusive impression is always appreciable in incipient or even in the more advanced forms of mental derangement, for there are many phases of alienation of mind often leading to the most fatal results where no apparently fixed or even fugitive false perception can be detected.

The experienced physician is not likely to confound delirium tremens, clearly the consequence of an excessive indulgence in, or the effect of a *sudden* abstraction of stimulants from the brain, with insanity. The acute accession of the delirium, remarkable insomnia which precedes its development, and continues through its course; peculiar muscular tremor; anxiety and distress of mind so characteristically marked in the physiognomy, the *fussy* and *busy* nature of the delirium, fumbling of the bed-clothes, extreme loquacity of the patient, peculiar sensorial illusions and mental hallucinations, suffused face, injected conjunctivæ, soft and feeble pulse, moist and creamy tongue, wild look of suspicion, terror, and alarm, clammy state of the skin, accompanied by a peculiar cutaneous exhalation similar to that observed in rheumatism, and perfectly obvious to the sense of smell, great agitation of manner, and unceasing restlessness, are all specific and peculiar diagnostic features of this type of cerebro-mental disorder, clearly distinguishing it from the ordinary and specific forms of insanity.

There are two affections with which epilepsy may be confounded—viz., *Eclampsia* and *Hysteria*. It is important to bear in mind the principles which should guide the physician in making an accurate diagnosis of these two distinct morbid conditions. *Eclampsia* often occurs to

women in a state of pregnancy, and is observed both before and after labour. These attacks differ from true *epilepsy* by the rapid recurrence of the convulsions. In *epilepsy* there are distinct intervals of some duration between the seizures, varying according to circumstances; but in *eclampsia* the convulsive spasms are more continuous in their character. The morbid condition of health which accompanies *eclampsia* is more easily detected than are those states of bodily disease or indisposition which are supposed to be associated with true *epilepsy*. *Eclampsia* occurring in pregnant women often depends on *albuminuria*. The presence of albumen in the urine previously to parturition should lead the physician to expect the possibility of *eclampsia* occurring after labour. The genuine epileptic convulsion, unless it is consequent upon softening, and other conditions of cerebral disorganisation, or is the effect of an accidental blow inflicted on the head, as a general rule attacks a person when apparently in a state of excellent health. Such is not the fact with regard to *eclampsia*.

The differential diagnosis between *hysteria* and *epilepsy* has next to be considered. The "*aura hysterica*" is easily distinguished from the "*aura epileptica*." The former, says Trousseau, "starts almost constantly from the same point, and is compared by the patient to the sensation of a foreign body, of a ball, pressing on the umbilical and epigastric region, and which, extending upwards along the œsophagus produces on reaching the throat a feeling of choking." Again, *hysteria* is known to affect the female sex almost exclusively, and is more tumultuous in its character than that of *epilepsy*. When speaking of the distinction between an epileptic seizure and an hysterical fit, Trousseau makes the following remarks:—"An individual in an epileptic fit is convulsed for a few

moments, but after a few seconds he becomes motionless and passes into a stupor; the deadly pallor of his face is replaced by redness of a more or less livid, bluish tint. Hysterical convulsions are, if I may use the expression, more demonstrative; they consist in extensive movements, which do not affect one side especially, as in epilepsy, but both sides nearly equally, except in cases complicated with catalepsy or paralysis. The patient can be restrained by several persons only. If an epileptic be seized whilst lying down, he remains in his bed; if, whilst standing, he falls down, and rarely quits the place where he fell. An hysterical patient, on the contrary, throws herself about in all directions; if in bed, she rises and throws herself to the right and to the left. An epileptic, again, after having uttered the cry which generally precedes a fit, remains silent; an hysterical woman keeps crying during the attack, and goes on moaning, or, towards the close, bursts into tears or into a laugh without any reason.*

In considering the subject of cerebral congestion, it will be necessary to diagnose between active determination to, and arterial congestion of the brain, as well as to distinguish the latter condition from one of venous plethora. The ordinary symptoms of active determination are, acute headache, feeling of tension, weight, or heaviness in the head, severe vertigo, aggravated whenever the patient stoops, suffusion of the face, injected conjunctivæ, distressing noises in the ears, sensorial hyperæsthesia, activity of the arterial circulation, recognised by undue action of the temporal and radial arteries, depression of spirits, apprehensions of an approaching calamity, optical illusions, increased temperature of the scalp, wakefulness or dis-

* "Lectures on Clinical Medicine," by A. Trousseau, translated by P. Victor Bazire, M.D. Lond. and Paris. London, 1868.

turbed sleep, accompanied with frightful dreams, sudden muscular twitchings and spasmodic startings.

It is difficult to define when the preceding cerebral state of active determination passes into a condition of congestion. In the former affection there exists marked hyperæsthesia of the ordinary functions of the *cerebrum*, whereas in the state of hyperæmia the symptoms indicate an opposite condition of the brain. This depression of the cerebral functions is marked by a sensation of dull, heavy weight in the head, seldom acute in its character. The patient complains of vertigo and obtuseness of hearing. In many of these cases there is partial amaurosis. The intellectual faculties are in an inactive state, the memory impaired, thoughts confused, and the great functions of life appear to be vitally depressed.

The insidious, slow, and progressive advance of insanity, exhibiting itself, in the majority of cases, by great singularity of conduct, delusive ideas, and clear deviations from normal modes of thinking and acting, as well as by an absence of the acute cerebral symptoms (except in cases of mania) that mark the condition of active determination and hyperæmia, will assist the practitioner in arriving at an accurate diagnosis. Again, insanity is easily distinguished from the acute symptoms of meningitis and cerebritis. These inflammatory affections are accompanied by severe headache, occasionally fugitive in its character, sense of weight and fulness in the head, flushing of the face, heat of the scalp, lethargy, vertigo, exaltation of the sense of hearing, seeing, and smelling; optical illusions, tinnitus aurium, injected conjunctivæ, full and laborious pulse, sudden startings during heavy sleep, as if the patient were alarmed by a frightful dream, bowels obstinately constipated, pupil contracted, skin dry and parched, and the mental condition alternating between delirious excitement

and a state of depression. With the preceding symptoms there is occasionally great irritability of the stomach, sometimes amounting to actual vomiting. Inflammation of the membranes and substance of the brain (affections very difficult to distinguish from each other) is often complicated with delirium (different in its character from the delusions and hallucinations of insanity) as well as with convulsions.

Lallemand professed to be able to distinguish between *meningitis* and *cerebritis*, or inflammation of the *substance* and *membranes* of the brain by the *muscular* phenomena which accompany, he affirms, almost exclusively the former cerebral condition; but the two types of inflammatory disease very frequently blend with, and are not easily to be distinguished from the other.

The premonitory symptoms of true inflammation of the brain are essentially dissimilar from those that precede attacks of mental derangement. For some period before the invasion of the acute cerebral disease, the patient is rarely free from some degree of headache, either continued, fugitive, fixed, or deep-seated. These degrees of cephalalgia are accompanied by pain, numbness, weakness, and a sensation of creeping and tingling in one of the extremities, or in one half of the body. These sensations may be confined to one portion of the body, but the numbness and loss of power is often restricted to one finger, or to one set of muscles.* In the early stage of cerebritis the speech is

* The isolated attacks of anæsthesia, occurring particularly in the fingers, that so often precede attacks of cerebro-spinal disease, did not escape the acute observation of Galen. "Pausanias the sophist," says this illustrious authority, "whilst making a voyage from Syria to Rome, experienced a loss of feeling in the two last fingers and on one side of the middle finger of his left hand. Under injudicious treatment, the insensibility of the affected part became permanent. I made inquiries into his condition, and learned, among other things, that during the

occasionally affected. There is a degree of hesitation, stuttering, or indistinctness of pronunciation. The patient complains of drowsiness, languor, and depression of spirits.

The practitioner will encounter but few difficulties in distinguishing between general paralysis of the insane, progressive locomotor ataxy, ordinary attacks of encephalic softening (white and red), paraplegia, hemiplegia, cerebral abscesses, and various kinds of tumour of the brain.

I have in the preceding pages described so fully the subtle advances of general paralysis, that it will be unnecessary for me to recapitulate the description there given of the incipient as well as diagnostic symptoms of this obscure and generally fatal type of cerebral disease.

Although this affection very closely resembles in its incipient as well as in its more matured stage, ordinary attacks of softening (such a disorganisation of the cerebral matter being frequently found after death from general paralysis), it is nevertheless considered as *sui generis,* and distinct in its nature from that of ramollissement. The morbid changes, chronic in their character, discovered in the membranes of the brain, grey matter of its convolutions (indicated by changes of colour), as well as alterations in the medullary or conducting portion of the encephalic structure, undoubtedly countenance such an hypothesis.

Are there any specific and diagnostic symptoms by which the physician is able unerringly to detect the commencement of softening of the brain ? The question must

voyage he had fallen from his chair, and struck with force the upper part of his back. The contusion was soon cured, but a numbness of the fingers supervened. I immediately advised that the same remedies which had been applied to the fingers should be directed to the part that had been first injured, viz., the spinal cord, and my patient speedily recovered the entire use of his left hand."—*From a paper in "L'Expérience," communicated by M. Dubois d'Amiens, "On the Writings of Galen."*

be answered in the negative. Nevertheless, in many instances it is clearly and unmistakeably perceptible.

There are two principal forms of ramollissement of the brain, *viz.*, *red* or inflammatory, *white* or non-inflammatory. This affection admits, however, of other divisions and subdivisions, but it is my intention only to describe cursorily in this work the symptoms of the two leading forms of softening. This important subject will be fully considered in all its details in the succeeding volume.

The premonitory stage of acute softening is not well or distinctly marked. Many of the symptoms observable at this period of the disease closely resemble the incipient signs of cerebral hemorrhage and paralysis, such as headache, vertigo, muscular debility, loss of sensibility in some part of the body, tinnitus aurium, formications, or slight symptoms of hemiplegia, muscular tremors, tetanic spasm, occasionally resembling a stiffness or rigidity of one of the limbs, slight palsy of one of the eyelids, strabismus, defective articulation, misplacement of words, with marked changes in the physiognomy, the expression being that of astonishment, stupor, indifference, or imbecility. The eyes are sometimes brilliant and staring, and at other times dull and without expression. The face is occasionally suffused, indicating a state of cerebral sanguineous congestion.

A remarkable and striking symptom frequently observed in acute softening is an increased secretion from the mouth and eye. This is especially remarked, says Durand Fardel, with old people in whom this viscid secretion dries, and forms hard masses on the edge of the eyelids, which irritate the eyes; whilst an abundant glairy fluid drops from the mouth, or, when more viscid, adheres to the tongue and palate, forming a thick yellowish crust, which is reproduced as soon as removed. A remarkable fact connected with

these increased secretions is that if a partial cerebral amendment takes place, the discharge ceases, but reappears as soon as the acute softening progresses.

In acute softening the patient often complains of optical illusions and impaired powers of deglutition. But the principal distinguishing symptoms are cephalalgia, more or less persistent and acute in its character, vertigo, modifications of speech, marked symptoms of paralysis of the eyelids, face, or one side of the body, associated with muscular debility, loss of memory, irritability of temper, occasional attacks of epilepsy, and a *muddled* and confused state of the intellect. The spirits are sometimes depressed, but occasionally excited. The pupils are often contracted, but are frequently dilated.

In chronic, white, or non-inflammatory softening the premonitory symptoms very closely resemble those previously described as characteristic of acute types of this disease, but varying of course in severity. I have described in the preceding chapters the principal mental symptoms significant of the commencement of this form of cerebral degeneration or disorganisation.

It will be unnecessary for me more than briefly to recapitulate what I have previously described as the mental evidences of white softening. I refer, first, to a confusion, and, secondly, to a gradual impairment of the intelligence, showing itself in defective powers of attention, enfeebled memory, infirmity of purpose, vacillation of will, and a general sluggishness, apathy, and subsequently imbecility of intellect. Associated with these mental symptoms there is cephalalgia and obvious changes in the sensory and motor powers (hyperæsthesia and partial paralysis). I have described these insidious and subtle lesions when analysing the morbid phenomena of motion, sensation, and speech.

In cerebral tumours and abscess of the brain there are not generally detected in the early stage any well-marked diagnostic symptoms. In these organic diseases, headache, often localised, is generally present, but it is often intermittent or paroxysmal in its character. If cephalalgia should not exist the patient will complain of vertigo, tinnitus aurium, defective memory, and ultimately confusion of intellect; but in these affections an absence of acute local pain, or even uneasiness in the head, will sometimes be observed. In all cases of suspected organic disease of the kind it is important to inquire minutely into the antecedents of the patient. It will occasionally be found that blows have been inflicted upon the cranium many years previously to the appearance of the cerebral symptoms. Abscess of the brain is often associated with chronic purulent discharge from the internal ear. Under these circumstances persistent headache, vertigo, distressing noises in the ear and head, lethargic sleep, deafness, and pain upon pressure over the mastoid process, are important elements in the diagnosis.

I have already addressed myself to a consideration of two important general symptoms usually present in organic disease of the brain, viz., headache and sickness of the stomach. Cerebral cephalalgia may be confounded with hemicrania or with nervous, neuralgic, gastric, and rheumatic exaltations of sensibility. In cerebral headache the sensation may be acute, lancinating, throbbing, or obtuse. The intensity of the pain in inflammatory headache is occasionally so great that the patient is obliged to remain for a considerable time in one position, the slightest motion aggravating his sufferings to perfect torture. The patient, says Dr Abercrombie, cannot generally bear a warm room, the noise of company, or even the exertion of cheerful conversation, without feeling greatly distressed and the

headache being increased. There is also connected with this type of cephalalgia, intolerance of light, and in fact in many cases great sensorial acuteness. In this cerebral headache the pain, says Romberg, "is generally characterised by the following peculiarities; it is permanently confined to a larger or smaller portion of the cranium. There is a sensation of pressure, tension, or pulsation, or the pain has a shooting, tearing, or rolling character. It varies in intensity, and is excited and exalted by bodily or mental fatigue, movement of the head, elevated temperature, highly spiced food, and long and sound sleep. The pain is relieved by raising the head or by assuming the erect position, or resting the cranium firmly against something; it possesses a remittent character. There are intervals, but during the intermissions the health is impaired. Spasmodic action or paralysis, generally confined to one side of the face or trunk, supervenes, or the organ of sense becomes afflicted with anæsthesia, and delirium follows. The pain abates and ceases altogether as the paralysis and sopor advance.

"It is a matter of much difficulty to define these features with accuracy sufficient for the purposes of diagnosis, as the organ is withdrawn from examination by a rigid osseous case; still one means of approach has been overlooked, which we ought certainly to avail ourselves of. It is a fact that during every vigorous and long-continued act of expiration the brain is elevated—the cerebellum being pressed against the tentorium, the cerebrum against the cranial bones. We may easily convince ourselves of the latter by placing the hand upon the fontanels of a child while it is crying. The old surgeons, acting upon a knowledge of this circumstance, recommended their patients, who suffered from penetrating wounds of the cranium, to cough violently, or to sneeze, in order to promote the discharge of blood or pus.

"We may, therefore, employ continued expiration, or holding the breathing during expiration, in cerebral disease, especially if it affects the surface, as a sort of substitute for the external pressure which we so frequently have recourse to in the exploration of the abdomen or thorax.

"The patients alluded to generally complain of the headache being brought on by straining in defecation. For the purposes of diagnosis, we may cause the patient to imitate this effort by holding the breath for some time during expiration, while the abdominal muscles are contracted. This at once brings on the pain, or, if it were present, increases it to the utmost. The same occurs in screaming, coughing, and vomiting. Similar experiments may be instituted during inspiration, during which the brain falls and approaches the basis of the skull.* We may thus obtain some information on the diseases affecting the base of the cerebrum and cerebellum.

"We are more in the habit of using the influence of position and movement of the head as the means of diagnosis. Swinging the head from side to side, stooping down, rising rapidly from the horizontal to an erect position, are apt to produce and augment the pain.

"The modifications and relations of cephalalgia to definite diseases of the brain are important in a diagnostic point of view. Before investigating them, it is necessary to point out that, in order to determine the existence of the pain in

* Ravina found that during inspiration he was able to introduce a quill between the skull and the brain of a pointer. On placing a cork cylinder divided into degrees upon the brain, it sank during ordinary inspiration one line, during strong inspiration three lines. If a cylindrical glass tube filled with water was placed upon the brain the fluid disappeared during inspiration and returned discoloured with blood on expiration.—See *Lund*;—"Physiologische Resultate der Vivisectionen neuerer Zeit," p. 149; and the still more recent experiments of Dr Ecker, in Physiologische Untersuchungen über die Bewegungen des Gehirns und Rückenmarks," 1843, pp. 27–102 and pp. 112–122.

these diseases, it is even more necessary than in affections of other organs to have an accurate history and a continued series of observations of the patient. This is necessary not only on account of the longer intermissions, but also on account of the recurrence of pain when other symptoms, and especially paralysis, supervene, and on account of the loss of memory which ensues in many cases."*

The absence of well-marked symptoms of gastric disorder—such as furred tongue, loss of appetite, acidity of the stomach, flatulence, pain or uneasiness after eating, vitiated secretions, sluggish action of the liver and intestinal canal—will assist the physician in his examination of a case of headache suspected to proceed from organic disease of the brain. In neuralgic and rheumatic cephalalgia the pain will not be confined to the head, but will be felt in other parts of the body, particularly in certain conditions of the atmosphere and alternations of temperature.

In nervous headache the pain is generally frontal, and often relieved by cheerful society, nutritious food, and stimulants. These attacks are seldom of long duration, whereas in *cerebral* headache, arising from softening, tumour, and abscess of the brain, it is, in acute cases, rarely absent. The pain, undoubtedly, in many instances, intermits, but it is generally followed by or is associated with vertigo, distressing noises in the head (often compared to the roaring of the sea), a confused and muddled condition of the intelligence.

The headache symptomatic of the presence of tumours of the brain, Romberg affirms, is considerably diminished, if not, in some cases, altogether removed, by the accumulation of serum in the cavities and between the membranes of the brain, but the pain is aggravated when inflammation and softening occur in the immediate vicinity of the

* Romberg, p. 159.

tumour. The headache that accompanies cancerous affections of the brain is generally severely acute and lancinating. In abscess of the brain it is generally paroxysmal.

I have previously referred to the intimate sympathy existing between the brain and the stomach, and to the frequent presence of nausea, gastric irritability, and actual vomiting, in many cases of organic disease of the brain. Romberg has described the characteristic diagnostic symptoms, by means of which we are enabled to distinguish cerebral from idiopathic sickness of the stomach. They are as follows :—

"1. The influence of the position of the head; the vomiting is arrested in the horizontal, and recurs, and is frequently repeated in the erect position. It is also easily induced by movements of the head, by swinging, shaking, or stooping, or suddenly rising. 2. The prevailing absence of premonitory nausea. 3. The peculiar character of the act of vomiting; the contents of the stomach are ejected without fatigue or retching, as the milk is ejected by babies at the breast. 4. The complication with other phenomena, the more frequent of which are pain in the head, constipation, and the irregularity of the cardiac and radial pulse, which is increased during and subsequent to the act of vomiting. The duration of the vomiting is limited in the inflammatory affections of the brain, meningitis, encephalitis, and acute hydrocephalus, to the first stages of the disease; and the prevailing rule is, that as the paralytic and comatose symptoms increase the vomiting remits and ceases."

The ophthalmascope will be found exceedingly useful to the physician when making a diagnosis of obscure disease of the brain. Dr John W. Ogle, Dr Hughlings Jackson, and Dr Clifford Allbutt of Leeds, have published several papers on the subject. The writings of Hulke, Hutchinson,

and Carter should be referred to by the student desirous of making himself acquainted with the literature of this subject.*

* Dr Hughlings Jackson's papers will be found in the "Royal London Ophthalmic Hospital Reports," vol. iv. part iv. 1865; vol. v. part i. 1866; vol. v. part iv. 1866; vol. vi. part ii. 1867. Dr John W. Ogle's paper in the *Medical Times and Gazette*, June 9, 1860. Dr Clifford Allbutt has recently read a paper on the condition of the Optic Nerves in the Insane, *vide* lectures on Optic Neuritis in the *Medical Times and Gazette*. Consult also the following work:—"Du Diagnostic des Maladies du Système Nerveaux par l'Ophthalmoscopie" par E. Bonchut. Paris, 1866.

CHAPTER XXVII.

GENERAL PRINCIPLES OF TREATMENT AND PREVENTION.

In all acute affections of the brain and disorders of the mind the cure and life of the patient depend—

1. Upon the speedy detection of incipient symptoms;
2. Upon the accuracy of the diagnosis formed as to the nature of the cerebral affection;
3. Upon the immediate application of remedial treatment.

I propose, in the first instance, to consider briefly the general principles that should guide the practitioner in the treatment of incipient insanity.

Too little attention has been paid to the use of physical remedial agents in the treatment of conditions of nervous structure implicating the healthy action of thought. To what cause is this apathy to be attributed? The neglect of curative agents has not altogether arisen from an indisposition to make, by a persevering exhibition of appropriate medicine, an effort to re-establish the normal health of the brain and mind; but it is in the main the result, the necessary and inevitable consequence of other causes, to which I propose briefly to refer.

The doctrine promulgated by writers of celebrity, and reverenced as authorities and guides in this special department of medicine, that for the cure of insanity *moral* treat-

ment is entitled to the highest rank, and to be deserving of the first consideration, has naturally tended to discountenance the administration of physical remedies. *Medical*, it is said, should be subsidiary to *moral* means; and that any suggestion to remove a morbid mental impression, by the aid of medicine, would indicate, on the part of the person making such an effort, an inexcusable amount of ignorance, mental obtuseness, and obliquity. A writer on the subject of insanity exclaims—"When one man thinks himself a king, another a cobbler, and another that he can govern the world with his little finger, *can physic make him think otherwise?*"*

Again, another author, in a work written to instruct the profession as to the treatment of the disorders of the mind, preposterously repudiates the idea of administering medicine for the cure of insanity, whilst the real nature of the mind remains unknown. He observes—"To prescribe for the mind, whilst *its nature remains a mystery*, is to prescribe for a *phantom*. As well might the mechanic attempt to regulate the multifarious operations dependent upon the agency of steam, by abstract discussion upon its nature, or to repair a fractured wheel, by directing his attention to the power that gave it motion, as for us to expect a successful result from remedies applied to an object of the true character and nature of which we are wholly ignorant; or of which, at least, we can only judge in its developments."† Can we conceive more fatally paralysing doctrines, opinions so antagonistic to all right views of the science of pathology, detrimental to the advancement of therapeutics, and disheartening to those who would bring the powerful agents of the materia medica to bear upon the cure of this distressing form of disease?

* Dr E. Willis on Mental Derangement.

† "Practical Notes on Insanity," by F. B. Steward, M.D. p. 37.

The treatment of the early stage of insanity requires great delicacy, discrimination, and judgment. Under these circumstances, where the brain is in a state of irritation, and the mind struggling between sanity and insanity, the person being conscious that his "wits" are beginning "to turn," the physician should proceed cautiously and discreetly in his examination. If the patient be led to believe, from his conduct or from anything which falls from him, that derangement of mind is suspected, the most painful and disastrous consequences might ensue. In the early stages of insanity the invalid's suspicions are morbidly excited. He occasionally has a dread of "going mad;" expresses a horror of such a calamity, and often most positively refuses to allow himself to be questioned on the subject of his mental health.

If the practitioner is judicious in his inquiries he may generally succeed in effecting his object without inducing the patient, in the slightest degree, to suspect the purport of his visit. In a few cases the physician may administer remedial agents, and succeed in warding off an attack of acute insanity, without conveying an intimation of the suspicions which exist as to the person's state of mind. In cases of this description, observation should be first directed to the state of the general health. The physician may detect hepatic, gastric, cardiac, renal, or intestinal disorder, irritating and sympathetically affecting the brain, and by the timely use of appropriate remedies these affections may be removed, and the mind restored to a healthy balance.

In the incipient stage of insanity great sleeplessness will often be complained of. The timely administration of sedatives, Indian hemp, the tincture of opium or liquor opii, may secure the patient continuity of sleep, and thus arrest the mental mischief at the outset of its career. If

headache or cerebral confusion be complained of at this period of the malady, iced water or spirit lotion should be kept constantly to the head, and in severe cases a bladder filled with ice should be applied. It is important to obtain at this stage of the malady, by means of mercurial purges, copious evacuations from the bowels. Counter irritation to the nape of the neck or behind the ears will often give great relief, under these circumstances, to the brain. A short journey from home, a careful avoidance of all anxiety, an entire abnegation from every description of mental strain, are important remedies in the early stage of mental alienation. In cases marked by great restlessness by day, as well as sleeplessness by night, $\frac{1}{4}$ to $\frac{1}{2}$ grain doses of the muriate, acetate, or bimeconate of morphia should be given every three or four hours, until the patient passes into a state of mental tranquillity. The judicious administration of chloroform by inhalation may be tried in some cases, but it should not be given except in extreme cases to produce complete insensibility. I am quite satisfied that incipient insanity may be often nipped in the bud by a steady and continuous exhibition of some form of opium associated with recognised moral means of cure.

In regard to the treatment of acute mania, the important and much-vexed question among practitioners is that relating to depletion. The opinions entertained by eminent writers on this important therapeutical point are conflicting and contradictory. Whilst some practitioners of great repute and enlarged experience fearlessly recommended in former times copious general blood-letting for the treatment of insanity, and cite cases in which this practice has been attended with the happiest results, modern authorities equally eminent, whose opinions are as much entitled to respect, fearlessly denounce the lancet as a most fatally dangerous weapon, and shudder at the suggestion of abstracting,

even locally, the smallest quantity of blood. In avoiding Scylla, we must be cautious of being impelled into Charybdis. The error consists in a vain effort to discover a *uniform mode of treatment, and attempting to propound some specific mode of procedure adapted to all cases.* He who maintains that local depletion is *never* to be adopted in the treatment of acute affections of the brain without reference to its character, origin, peculiar constitution of the patient, and the existence of physical morbid conditions which may materially modify the disease and give active development to morbid mental impressions, is not a safe practitioner. Neither would I confide in the judgment and practice of the physician who would, in cases of acute maniacal excitement, without great discrimination and extreme caution, attempt to tranquillise the patient and subdue excitement by antiphlogistic treatment.

In insanity, when the symptoms are acute, the patient young and plethoric, the habitual secretions suppressed, the head hot and painful, the eyes intolerant of light, the conjunctivæ injected, the pupils contracted, the pulse rapid and hard, and the paroxysm *sudden* in its development, local bleeding will sometimes arrest the progress of the cerebral mischief, greatly facilitate the operation of other remedies, and ultimately promote recovery. In proportion as the symptoms of ordinary insanity resemble those of phrenitis, or meningitis, shall we be justified in the use of depletion. Although it is only occasionally in instances presenting peculiar characteristic features, cases occurring in the higher ranks of life, where the patient has been in the habit of living *above par* and is of a sanguineous temperament, that we are justified in having recourse to general depletion, there is a class of recent cases presenting themselves in the asylums for the insane, both public and private, in the treatment of which we should be guilty of

culpable and cruel negligence if we were to omit to relieve the cerebral symptoms by means of the *local* abstraction of blood. It is, alas! the fashion and caprice of the day to recklessly decry the application of cupping-glasses or of leeches in the treatment of insanity, in consequence, I think, of the slavish deference shown to the opinions of a few eminent pathologists, who have, by their indiscriminate denunciation of *all depletion*, frightened us into submission, and compelled us to do violence to our own judgment. The local abstraction of blood is, in the hands of the discreet and judicious practitioner, a curative agent; and yet it is the practice of some men, and men, too, of position, to discard altogether the remedy.

I will briefly refer to a type of case in which this treatment will be found most beneficial, if proper regard be had to the temperament, constitutional condition, and the local circumstances modifying the character of the attack. In insanity, when the exacerbations occur at the menstrual period, leeches to the vulva with the use of the sitz-bath and the exhibition of aloetic purgatives, will be attended by the most favourable results. In irregular and obstructed menstruation the local abstraction of blood will be very serviceable. In suppressed hemorrhoids, leeches to the neighbourhood of the sphincter ani will act beneficially by unloading the hemorrhoidal vessels, thus relieving the brain from the effects of sympathetic irritation. In cases of nymphomania leeches to the vulva as well as the cerebellum are indicated, and have been known to be of great benefit. In cases of intermittent insanity the paroxysm may often be cut short by relieving the overloaded state of the vessels of the head by means of cupping or the application of leeches. In some instances leeches may be applied to the Schneiderian membrane, particularly for the treatment of insanity occurring in early life and connected with conduct

evidently the effect of cerebral irritation. Occasionally the insanity is found to be associated with active visceral disease, or with hypertrophy and other affections of the heart. Under these circumstances, when there exists great tenderness over the region of any of the visceral organs, and we are satisfied, by a careful stethoscopic examination, that active hypertrophy of the heart is present, leeches applied over the seat of the local mischief, conjoined with mercurials and the iodide and bromide of potassium, will subdue the maniacal affection. In cases of illusions of hearing, or of vision, it will often be necessary to apply leeches behind the ears, or over the superciliary ridges.

But apart entirely from the local affections to which I have referred for the treatment of idiopathic insanity, apparently without any complications, or modified by any of the associated diseases, the careful and temperate local abstraction of blood when general depletion is inadmissible, will often materially shorten the duration of an attack and restore the mind to a healthy condition. I am anxious to record my favourable opinion of this mode of treatment, because I have witnessed so many sad results from an opposite timid and reprehensible neglect of the means placed within our power for the treatment of the varied forms and degrees of mental derangement. Sad consequences have undoubtedly followed the indiscriminate use of depletory measures. The presence of violent mental excitement has occasionally led the practitioner to the conclusion that the disease was of an active character, and in the attempt to allay the undue cerebral excitement by means of anti-phlogistic measures, the patient has sunk into incurable and hopeless dementia. But whilst recognising an *anæmic* class of case, where great excitement is often associated with loss of nervous and vital power, we must be cautious in permitting serious disease to be creeping stealthily on in

the delicate structure of the brain, no effort being made to relieve the congested cerebral vessels or inflamed nervous tissue, until fatal disorganisation has taken place in the vesicular matter and the patient is for ever lost. In the treatment of acute mania the remedy next in importance to cautious depletion is that of *prolonged hot baths.* To Dr Brierre de Boismont the profession is indebted for reviving a practice which had long fallen into disrepute. In the treatment of acute mania the prolonged hot baths will be found of the most essential service. Dr Brierre de Boismont has recorded the history of sixty-one out of seventy-two cases that were subjected to this mode of treatment. Three-fourths of this number were cured in a week and the remainder in a fortnight. The patients remain from eight to ten and fifteen hours in warm baths, whilst a current of cold water is continually poured over the head; the temperature of these baths is from 82° to 86° Fahr.; the affusions 60° Fahr. Among the therapeutic effects of these baths Dr Brierre de Boismont reckons a diminution of the circulation and respiration, relaxation of the skin, alleviation of thirst, the introduction of a considerable quantity of water into the economy, an abundant discharge of limpid urine, a tendency to sleep, a state of repose. This mode of treatment is said to be inadmissible in cases of intermittent mania, in insanity beginning with great mental impairment, or associated with epilepsy or general paralysis. The result of this plan of treatment has produced a very favourable impression, and I think it is entitled to a fair trial in all our asylums where recent cases are admitted.

In some forms of acute mania it is desirable as a substitute for depletion, to diminish the activity of the circulation by the exhibition of nauseating doses of tartrate of antimony; it may be serviceably combined with the tinctures of

digitalis and hyoscyamus. The former remedy, however, requires to be closely watched, as it often has been known to suddenly reduce the vital powers to a low ebb and extinguish life. It will be found beneficial in proportion to the recent character of the case and the positive activity of the cerebral circulation. The tincture of digitalis was formerly in great repute as an anti-maniacal remedy, but the experience of late years has not encouraged us in administering it in the doses prescribed by some of the old writers; nevertheless, it is a useful agent, and occasionally proves a valuable auxiliary in the hand of the practitioner who carefully observes its therapeutic operation.

When bleeding is clearly inadmissible, cold applied to the head will diminish by its sedative action vascular excitement, and lessen powerfully the morbid sensitiveness of the cerebral tissue. Should there, however, exist a tendency to active plethora, apoplexy, and paralysis, cold lotions and ice should be used with great caution. The *douche* bath and Dr Richardson's ethereal spray, applied to the head,* will often be found efficacious in subduing cerebral excitement. The douche is to be used when the patient is in the hot bath.

Great caution is, however, required in its administration. A patient has been subjected, whilst in a paroxysm of acute delirium, to the douche, and has sunk almost immediately into incurable idiocy. The physical shock has, however, been known to produce a good moral impression. For illustration: a patient imagined himself to be emperor of the world, and would not allow any one to otherwise address him. The immediate application of the douche bath destroyed his idea of royal dignity, and he was willing to admit that he had never

* I do not, except in extreme cases, use the strong freezing liquid. I generally dilute it with half the quantity of spirits of wine, or eau-de-Cologne.

been, nor was at any time, a regal personage. A few hours subsequently the delusive impression returned in all its original force; the douche bath was again had recourse to, and a second time the morbid impression vanished; by a series of baths he was restored to sanity, and after his complete recovery, when the particulars of his case were placed before him, he observed, "Why did you not whip me, and beat this nonsense out of my head? I wonder how you could have borne with my folly, or I have been guilty of such contemptible arrogance and obstinacy." As a substitute for the douche, the shower bath is often used with great benefit, particularly in certain forms of melancholia, associated with nervous depression and general debility. In melancholia, or other kinds of chronic insanity connected with a congested state of the liver, Sir J. Ranald Martin's nitro-muriatic bath will do good. Marked benefit has arisen from the use of Bertolini's sedative bath, composed of henbane two pounds, and equal parts of hemlock and cherry-laurel leaves, well infused in a sufficient quantity of hot water. But the simple hot bath, in certain conditions of the nervous system, particularly in some forms of suicidal mania, is of essential benefit. A warm bath a short period before retiring to rest, bathing the head at the same time with iced water, eau-de-Cologne, or spirits of wine, particularly if the scalp be unnaturally hot, will often ensure a quiet and composed night, when no description of sedative, however potent its character and dose, would influence the system.

In the incipient, as well as in advanced stages of insanity, the generally overloaded and inactive state of the bowels should be relieved by means of purgatives. Much caution, however, must be observed in the use of aperient medicine. Very frequently the whole surface of the

mucous membrane of the intestinal canal is in a state of sub-acute inflammation. This condition acts sympathetically upon the brain and nervous system, and aggravates the mental irritation. When this morbid state of the intestines is present, the use of aperients should be preceded by the application of a few leeches (particularly if there be pain upon pressure), or counter-irritants, to the neighbourhood of the abdominal viscera. In other cases of insanity it will be necessary to exhibit drastic purgatives. Hellebore had in ancient times the reputation of being a specific in cases of insanity; it was considered to operate powerfully in clearing and invigorating the intellectual faculties. Carneades, the Academic, when preparing to refute the dogmas of the Stoics, went through a course of purgation by means of white hellebore. So celebrated was this purgative as a mental remedy, that the poets of antiquity have sung its virtues. Horace says, in allusion to the "happy madman:"—

> "He, when his friends, at much expense and pains,
> Had amply purged with hellebore his brains,
> Came to himself—'Ah cruel friends!' he cried,
> 'Is this to save me? Better far had died,
> Than thus be robbed of pleasure so refined,
> The dear delusion of a raptured mind.'"

Persius also refers to the fame which this medicine had acquired in cases of disordered mind. In his fourth satire he tells Nero that, instead of taking upon himself the great and weighty task of government, which required much experience and sound judgment, he ought to swallow a most powerful medicine to clear his understanding—

> "*Anticyras* melior sorbere meracas." *

---

* The islands of Anticyra were famous for producing hellebore. The quotation from Persius has been thus translated by Dryden:—

> "Thou hast not strength such labours to sustain,
> Drink hellebore, my boy—drink deep, and purge thy brain."

Melampus, the son of Amythaon, is said to have cured the daughters of Prœtus, king of Argos, of melancholy, by purging them with hellebore. According to the traditionary fable, Melampus had observed that the goats who fed on this plant were purged; and having administered it to the king's daughters, who were wandering in the woods under the delusion that they were cows, he cured them, and received the hand of one of them in marriage, and a part of the kingdom of Argos as his reward.

It is important in some, particularly in the acute forms of insanity, to act powerfully upon the bowels by means of a succession of brisk purgatives. The viscera are often found gorged with effete matter, and immediate relief often follows the administration of two or three doses of calomel and colocynth, jalappine, or croton oil. It will often be necessary to assist the operation of the cathartics by means of turpentine and other enemata. In hysterical and some other forms of insanity there is frequently a disposition on the part of the patient resolutely to resist the calls of nature; knowing this peculiarity, we must carefully watch the condition of the bowels, otherwise serious mechanical obstructions may ensue, followed by surgical diseases of the rectum.

Insanity is often associated with gastric and intestinal disease and an irritable condition of the mucous membrane of the alimentary canal. In such cases, although it be important to relieve the bowels and prevent them from being constipated, we must bear in mind that the injudicious exhibition of drastic cathartics may aggravate the mental disease by increasing the gastric and intestinal irritation, and thus do permanent and irremediable mischief. Much injury arises from the indiscriminate administration of cathartics. In insanity associated with menstrual obstructions it will be necessary to exhibit the class of

purgatives known to act specifically upon the lower bowel; consequently aloetic cathartics, such as the compound decoction of aloes and the compound galbanum pill, are found of most service. In plethoric conditions of the system, when there is a marked determination of blood to the head, no medicine will relieve so speedily as active doses of the compound powder of jalap.

In the treatment of insanity the class of medicines termed *sedative* play an important part. If exhibited with judgment, the most gratifying results often follow their continuous and persevering administration. The sedative treatment of insanity is a subject of itself, and I quite despair of touching in this chapter even upon the confines of the many interesting and important points involved in its consideration. In insanity unassociated with active cerebral circulation, congestion, or paralysis, or after the head symptoms have been relieved by the local abstraction of blood and the administration of appropriate medicine, the exhibition of sedatives will be followed by the most beneficial results, particularly in cases of delirium tremens, puerperal insanity, and other forms of derangement analogous in their pathological character and symptoms to these affections.

In chronic insanity, in melancholia unconnected with abdominal repletion or visceral disease, the persevering use of sedatives in various combinations will often re-establish sanity when no other course of treatment would be successful in dispelling illusive impressions or raising the drooping and desponding spirits. Batley's solution, with or without half drachm doses of the bromide of potassium; tincture of opium, the bimeconate (Squires' preparation), acetate, and hydrochlorate of morphia, the preparations of hyoscyamus, belladonna, atropine, conium, stramonium, camphor, hops, aconite, belladonna, ether, chloroform, hydrocyanic acid,

hydrochloric ether, Indian hemp, are all of great service, if used with judgment. In suicidal insanity, when local cerebral congestion is absent, and the general health and secretions are in good condition, the bimeconate and hydrochlorate of morphia often act like a charm, if uninterruptedly and perseveringly given until the nervous system is completely under their influence. In the exhibition of this powerful curative agent our success will often depend upon a ready adaptation of the form of sedative to the description of case in which it may be deemed admissible, and a judicious admixture of various kinds of sedatives. I do not think we pay sufficient attention to this combination. The extract of conium, combined with the bromide of potassium, in ℥ß to ℥j. doses, is often of service in cases of insanity combined with epilepsy ; conjoined with mineral tonics, conium is occasionally of benefit, particularly in melancholia connected with chronic disease of the digestive organs and with neuralgia. In cases of uterine irritation great good results from the combination of hops, camphor, and hyoscyamus. In illusions of vision, belladonna, commencing with quarter-grain doses, will be found a useful remedy. In insanity complicated with dysmenorrhœa the combination of camphor with hyoscyamus, opium, or conium may be given with great advantage. The hydrochlorate of morphia, in union with dilute hydrochloric acid, is said to be useful in cases where the sedative treatment is desirable. Sedatives and tonics may be given in combination, particularly conium with iron, opium with quinine, or with the infusion or compound decoction of cinchona. In debility, with irritability of the nervous system, accompanied by restlessness, the *liquor opii sed.*, with the preparations of cinchona, will often prove of great benefit. The tincture of sumbul, tincture of ergot, may be administered, and I think with advantage, in paroxysmal or con-

vulsive forms of insanity. I have given it to the extent of one or two drachms for a dose. In hysterical derangement the tincture or extract of Indian hemp, combined with ℥ß to ℥j. doses of the bromide of potassium, will occasionally allay excitement and produce sleep more rapidly than any other medicine. This powerful sedative has fully answered the expectations of those who have spoken so highly of its medicinal virtues. Tincture of opium with camphor, and the tartrate of antimony, is an excellent combination in cases of doubtful cerebral congestion. Tincture of hops, in doses of from one to four drachms, may be necessary when no other sedative is admissible. The compound ipecacuanha powder, extract of lettuce, and the syrup of poppies, are occasionally used with benefit. A good substitute for Dover's powder is a pill composed of opium, ipecacuanha, and soap.

In many cases, sedatives administered hypodermically will be found more effective than when passed into the circulation through the medium of the stomach. The solution of the *bimeconate of morphia,* as specially prepared for this purpose by Mr Squire of Oxford Street, will answer better than any other sedative preparation.* This mode of exhibiting potent doses of opium obviates that terrible derangement of the stomach which so often accompanies the use of this drug when given in the ordinary way. Half a grain to a grain and a half of morphia may, as a rule, be safely injected on the inner side of the upper arm, or any place where the skin is thin. The sedative effect

* Six drops of Squires' solution of the bimeconate of morphia correspond to one grain of the acetate; and *six entire turns* of the syringe, or *twelve half-turns*, are required to inject in the six drops. It has been established, by the committee appointed to investigate the value of hypodermic injections, that serious symptoms might arise from small doses of morphia thus exhibited. This important fact should always be borne in mind.

of the medicine will be often perceived within a short time of its administration. This mode of giving opium will be found invaluable in cases where the patient obstinately closes the mouth, refusing to swallow any kind of liquid.

The more chronic forms of insanity, particularly melancholia, are occasionally difficult of cure. Owing to the insidious character of the disease, the mental affection has generally been of some duration before the attention of the practitioner has been directed to its existence. As this form of derangement generally exhibits itself in trifling perversions of the affections and propensities, leading to little acts of extravagance and irregularity of conduct, associated with great depression, the attack is often found to have existed some years before a necessity has been felt for any medical advice or treatment. Perhaps a suicidal propensity has manifested itself, this being the first overt act of insanity.

It is necessary, before suggesting any course of treatment in melancholia, to ascertain whether there is any latent visceral disease. Occasionally local irritation is detected either in the liver, kidneys, stomach, bowels, or uterus affecting the brain. In melancholia associated with false views of religion, there is generally, in females, uterine or ovarian irritation; under these circumstances, if actual physical derangement of an active character exists, the treatment will be to apply leeches to the neighbourhood of the uterus, combined with warm hip-baths, sedatives, and mineral tonics. In cases of melancholia, the digestive functions are often much deranged, the circulation languid, the skin cold and flaccid, and the secretions vitiated. These symptoms are often conjoined with vital depression. Such patients require generous diet, good air, gentle exercise, and occasional stimuli. When dyspeptic symptoms are combined with an inactive

state of the bowels, the compound tincture of guaiacum may be administered with great benefit. It is important to watch the particular symptoms in these cases, and to improve the general health by mild alteratives and vegetable tonics, combined with alkalies. In this form of insanity, apparently associated with a defective condition of the nutrition of the brain, cod-liver oil, with the carbonate, phosphate, or sulphate of iron, will be found useful.

In some chronic forms of insanity, in dementia and persistent monomania supposed to be connected with morbid thickening of the dura mater, interstitial infiltration of the membrane and exudations upon its surface, the head may be shaved, and the scalp rubbed with a strong ointment of the iodide of potassium combined with strychnine. In other instances the head may be painted with an iodine mixture. When the mental symptoms are supposed to be associated with effusions of serum the iodine may be applied externally, exhibiting at the same time minute doses of calomel, the perchloride of mercury, or hyd. cum cretæ, so as to slightly affect the system; this, conjoined with occasional tonics, diuretics, and stimuli to support the vital powers, is occasionally productive of considerable benefit, in cases apparently placed quite beyond the reach of improvement or cure.

I have briefly previously referred to two distressing and often unmanageable forms of insanity—viz., of suicidal mania, and of those cases where the patient obstinately refuses to take either food or medicine. In insanity associated with suicidal tendencies, it is important to ascertain whether any cerebral congestion exists. If such be the case, a few leeches applied to the head, followed by an active cathartic, will relieve the local irritation, and often dissipate the idea of self-destruction. In the absence of any active cerebral symptoms, the prolonged hot bath,

and the persevering exhibition of some form of sedative, is the best treatment to be adopted. For the removal of the suicidal impulse, belladonna, the bimeconate and hydrochlorate of morphia, if given for a sufficient length of time, will, if there is not serious visceral or cerebral disease, effect a cure, or alleviate the sufferings of the patient. Occasionally the shower-bath, and counter-irritation to the neighbourhood of the head, will assist in re-establishing health. Cases occur where the patient obstinately refuses to take food or medicine. These cases give much anxiety. The refusal of food may be connected with the intention to destroy life, or it may be associated with and caused by delusions. In the majority of these cases this symptom is the result of some irritation existing in the great ganglionic centres remote from the sensorium, affecting by reflex action the organ of thought. Upon examination, there is often found great gastric derangement, obstinate constipation, considerable tenderness upon pressure in the epigastric region, hepatic disease, foul tongue, offensive breath, and other symptoms of derangement of the chylopoietic viscera. The determination to resist nourishment may arise from a positive loathing of food. It has been necessary in some cases, in order to prolong life, to use the stomach pump. This morbid disinclination for food is sometimes cured by improving the general health and giving tone to the digestive organs. Mild alteratives, vegetable tonics, blisters over the region of the stomach, if the patient complains of pain in that region, the warm and shower bath, are the most successful remedies to adopt in cases connected with obvious visceral derangement. Instances sometimes occur where this is clearly traceable to the presence of an hallucination of taste, which makes everything appear to the patient bitter, disgusting, and poisonous. The unhappy sufferer often imagines that he

is commanded, either by good or evil spirits, not to eat. These cases must be treated upon general principles, and the remedies be adapted to the peculiar character of each individual patient. Under hallucinations of taste, the most extraordinary articles are swallowed. A lunatic imagined that his stomach required to be strengthened with iron. He was seized with inflammation of the œsophagus, of which he nearly died. He then confessed that he had swallowed the blade of a knife. After his death, there were found in his stomach seven oxydised lath nails, each two inches and a half long; thirty-three nails, two inches long; forty-nine smaller iron nails and rivets; three pieces of wound-up iron wire; an iron screw an inch long; a brass image of a saint; part of the blade of a knife; and other articles; amounting in number to one hundred, and weighing about twenty ounces. It will be necessary, in cases like those to which I have been referring, to ascertain whether the determination not to eat is the effect of such perversions or hallucinations of taste.

I can only here allude in general terms to the importance, as a principle of treatment, of the administration of tonic remedies, active exercise in the open air, and to good and generous living. It is rarely necessary, in the treatment of insanity, to deprive the patient of animal food. Individual instances occasionally occur, in which it is indispensable, for a time, to enforce a farinaceous diet; but such is not often the case. Among paupers, insanity is frequently cured by the free use of good animal food, pure air, and a generous supply of porter. Even when we are satisfied of the necessity of local depletion, it will often be requisite to give wine, and allow the patient a generous diet.

There cannot be two opinions among experienced medical

men as to the propriety of occasionally recommending that a patient suffering from acute mental disorder should be removed from all his former associations. The object of separation is to break through the morbid train of thought and to place the patient at once within the range of efficient curative treatment. As long as he is surrounded by circumstances likely to encourage and give activity to his morbid suspicions and delusions, all remedial efforts to restore him to health will be of little or no avail.

No physician would be justified in undertaking the treatment of a case of acute insanity without being delegated by the family of the invalid with absolute and unconditional permission to isolate, if in his judgment he considered this course necessary, the patient completely from home, and every circumstance with which he has been previously connected. The lunatic may fancy (and this is one of the peculiar features of the disease) that his relatives are conspiring against him; he may imagine that his house is daily visited by persons devising schemes for depriving him of his life and property. The physician would exhibit great want of skill if he were to lose valuable time by attempting to combat with the disease under such unfavourable circumstances. It will be necessary, therefore, to remove patients of this kind from the sphere of their own circle before any permanent advantage is likely to ensue from medical or moral treatment. Cases no doubt occasionally occur in which the practitioner would not be justified in suggesting this course. When the prognosis is favourable and the attack of recent character, evidently dependent upon *temporary* bodily conditions of ill health, and the delusions of the patient unconnected with any member of the family, every effort should be made to grapple with the malady before separation from home is advised or carried into effect.

I have, when speaking of the stage of consciousness, referred to the distressing, blasphemous, and often obscene thoughts that occasionally occur in certain forms of nervous disorder and particular types of incipient insanity. It is possible in many cases, whilst such morbid ideas are transient impressions, to overpower, conquer, and dismiss them from the mind by an indomitable and persevering effort of the will.*

The unhappy sufferer is occasionally so fearfully under the dominion of these insane suggestions that he is unable to make any effort to interfere with or dislodge them from the mind. Instead of dismissing, he often appears to encourage their entrance into, as well as to promote their unhealthy ascendancy over his thoughts, exclaiming,

> "Vapours, and clouds, and storms, be these my theme.
> . . . . . Welcome kindred glooms,
> Congenial horrors, hail!"

The power of self-control is, in many instances, weakened

* Mr Spurgeon, when recounting an episode of his life connected with his conversion, says:—"In the early days of my Christian career I was much troubled with wicked and blasphemous thoughts, which would force themselves into my mind when I fancied myself most ardently struggling with God in prayer. To such a degree was I under the influence of these terrible suggestions, that when they made an effort to rush to my lips I was obliged to put my hand to my mouth to prevent myself giving utterance to them. So greatly afflicted was I in this manner, that I consulted a venerable Christian friend respecting these thoughts. He asked me whether they came into my mind in any consecutive form, or only by fits and starts. I replied that they came quite suddenly, and had nothing consecutive about them. 'Oh, then,' said my Christian friend, 'care nothing for these thoughts; I know where they come from; treat them as in Old England we used to treat vagrants—flog them well at the cart's tail, and send them home to their parish. These thoughts are suggested to your mind by Satan, who says to himself, "I am likely to lose this man, and I will make a desperate effort to keep him within my power." Flog them, I repeat, well, and send them home.' I did," continues Mr Spurgeon, "what my dear Christian counsellor advised, and conquered the enemy."

or altogether lost by a voluntary and criminal indulgence in a train of thought which it was the duty of the individual, in the *first* instance, to resolutely battle with, control, and subdue. Nervous disorders as well as insane delusions are thus often self-created. It may not be an easy task to conquer morbid suggestions, obtain a mastery over unhappy feelings, and crush unnatural inclinations. The difficulty of obtaining such an influence over the perturbed mind may be great; nevertheless, a resolute and persevering exercise of the volitional power will, in many cases, effectually enable the patient to destroy in their infancy the tyranny of unhealthy impulses, and keep in subjection wicked and criminal tendencies—

> "Nemo adeo ferus est, ut non mitescere possit,
> Si modo culturæ patientem commodet aurem."—Hor.

Cotemporaneously with the will ceasing to exercise a controlling influence, the intellect loses its healthy balancing power. A man indulges in a depraved course of conduct, harbours and encourages vicious ideas, his actions often corresponding with the unfortunate condition of his mind and feelings, until all power of volition becomes suspended, and he is reduced to a state of *quasi* lunacy. A person, for some real cause, feels a degree of animosity towards a particular individual who has injured him. Instead of making an effort to crush this feeling, he allows—in fact, forces—his mind to dwell upon it; the idea pursues him in his walks, haunts him in his waking thoughts, and exercises a fearful ascendancy over him during the darkness of the night. The mind eventually becomes so absorbed in the idea, that the bitter, angry feeling which, in the first instance, was insignificant and amenable to control, seizes hold of the mind, and influences and distorts every idea and action. The *morbid* soon becomes a *deranged* mind, the insanity manifesting itself in

an exaggerated, extravagant, and perverted conception of a notion which had originally some semblance of truth for its foundation. The self-created delusion may thus obtain a fearful dominion over the mind, and eventually lead to the commission of criminal acts.

If self-control is to be exercised with any curative advantage, it must be practised in the incipient stage of mental disorders. At this period it is possible, even when insanity has begun to throw its dark shadow over the intellect, to subdue the morbid thoughts and perverted feelings by a resolute and determined effort of the will—

> "Our remedies oft in ourselves do lie,
> Which we ascribe to heaven; the fated sky
> Gives us free scope; only doth backward pull
> Our slow designs, when we ourselves are dull."

In such states of morbid thought, or early stages of insanity, much benefit is derived from medical treatment. Happily we possess the means of invigorating the functions of the brain and nervous system, and thereby giving tone to the flagging and enfeebled will. It would be most unwise, while struggling to keep in check unhealthy ideas, to neglect a careful consideration of the bodily health, upon which these conditions so often depend.

How important it is to trace the connexion between a total want of sensibility in regard to those impressions which affect the salvation of the soul and certain unhealthy conditions of the body! Whilst fully acknowledging the direct interposition of the Holy Spirit of God upon the mind, inducing spiritual changes in the hearts of those happily brought within its operation, I nevertheless consider it my duty to suggest, that as the all-wise Creator, in His great wisdom, often accomplishes His beneficent designs through the instrumentality of physical agents, it is legitimately within our power, by conserving the mental

and physical health, to adapt the mind for the more ready reception and retention of those truths on the right appreciation of which man's eternal welfare depends.

Whilst speaking with great reverence, caution, and extreme diffidence upon subjects so solemn and sacred, I would ask, Can the physician neglect their medical and philosophical consideration? "The want of consolation in the soul is often owing to *bodily disease.* It is not more surprising for a conscientious man, under the influence of a morbid melancholy, to doubt and despair, than it is for a sick man to groan or a child to cry when it is chastised. Without the physician, in these cases, the labour of the divine would be in vain. Fear may silence the groans of the wounded spirit, but you cannot administer comfort. The consciousness of sin, and the apprehension of the wrath of God, are often the results of bodily distemper. There are some cases when a man's thoughts are in a manner forced upon him, *from the present temper and indisposition of his body;* so that so long as that habit of body lasts, he cannot avoid that sort of thoughts. This is the case of some deeply hypochondriac persons, many of whom will be haunted with a set of thoughts and fancies that they can by no means get rid of, though they desire it never so earnestly. We may properly call these *fancies of their waking dreams,* as their dreams are their sleeping fancies."

"Though we cannot, in many cases, think always of what we would,—nay, though we cannot hinder abundance of thoughts from coming into our minds *against our will,*—yet it is always in our power to assent to our thoughts, or to deny our consent to them: if we do not consent to them so soon as we are aware of them, there is no harm done. Should we be haunted with blasphemous thoughts, and cannot get rid of them, we must consider that our

thoughts are no further ours than as we choose them; *that all sin lies in the will, and all will implies choice;* that those thoughts, therefore, which are not our choice, which we reject with a settled aversion and abhorrence, will never be placed to our account. So that our thoughts, however indecent or irregular soever they may be, are rather to be considered the infirmities of our corrupt nature than our sins, properly so called. If we close with any thought that prompts us to evil, so as to be pleased with it, to think of pursuing it till it be brought into action, in that case we can no longer plead our natural corruption; for in that very instant we become actual sinners, or actual transgressors of the law of God. The mind is passive in receiving its notices of things, whether pure or impure; but it is active in its determination whether to harbour or discard them. As far as it is passive it is certainly innocent; as far as it is active it is accountable; and it is constantly active when we dwell upon impure thoughts with complacency—when we strengthen ourselves in wickedness by cherishing the remembrance of guilty joys, and laying scenes in our imagination for the entertainment of future pleasures. Here, then, we see in what the government of our thoughts consists: they are not criminal till they have the consent of the will; and the soul can withhold that consent until it has sufficiently considered the whole case." . . . .

"Notwithstanding what I have hitherto said concerning the diligence with which we are to keep our hearts, yet this is always to be remembered, that with our diligence we must be careful to join discretion. My meaning is this: we must have a care not to extend our thoughts immoderately, and more than our tempers will bear, even to the best things. And the way to do that is, not to put them too much or too long upon the stretch at any one

time, but to relax them when there is occasion, and to let them run out and entertain themselves upon anything that comes to hand, so long as it is innocent." *

Burton frequently adverts to the recurrence of unholy and impure thoughts as a mental symptom of bodily disease, and so formidable a source of anguish as sometimes to occasion suicide.† Archbishop Secker, who was himself originally a physician, when speaking of "sin against the Holy Ghost," says—"As for what some good people are often terrified about, the wicked imaginations that come into their minds, and expressions that come out of their mouths, at times, almost whether they will or not, in proportion as they are involuntary they are not criminal in them, *be they ever so bad.* . . . When they apprehend they cannot be pardoned, they entirely mistake their own case, either through ignorance or false opinions, or excessive tenderness of mind; or indeed more commonly by reason of some bodily disease, though perhaps unperceived by themselves, which depresses their spirits and clouds their understanding, and *requires the aid of medicine.*" ‡

Emboldened by these theological authorities, I would suggest that the attention of the physician should be particularly directed to the physical state of the functions of organic life, when he witnesses instances of an exalted or depressed condition of the religious feelings, different in their character from ordinary and healthy manifestations, and not clearly traceable to the operation of the Holy Spirit. I am aware that there is a disposition on the part of those who take an *ultra* spiritual view of the mind's operations to repudiate the material theory just enunciated. "What cheer," says Emerson, "can the religious sentiment yield when that is suspected to be secretly dependent upon

* Baxter's "Saint' Rest," and the "New Whole Duty of Man."

† Anatomy of Melancholy. ‡ Lectures on the Church Catechism.

the seasons of the year and the state of the blood?" "I knew," he continues, "a witty physician, who found theology in the biliary duct, and used to affirm that if there was disease of the liver, the man became a Calvinist, and if that organ was sound, he became a Unitarian." In relation to this piece of pleasantry, I would observe that many a man has considered himself spiritually lost whilst under the mental depression caused by long-continued hepatic and gastric derangement; and instances occur of persons imagining themselves to be condemned to everlasting punishment, subjects of Satanic presence, and to hold *personal* converse with our Saviour, owing to the existence of visceral disease, and a congested condition of some one of the great vascular or nervous centres. In the former case the mind has been enabled to realise a return to a right appreciation of divine mercy, and been made again to rejoice in comfort and hope, as the effect of a course of alterative medicine; and morbid ideas of demoniacal possession, and delusions as to having committed unpardonable sins, have vanished as soon as the bowels, stomach, and liver have been made to act with healthy regularity, and the cupping-glasses have relieved the overloaded cerebral vessels. "It is probable," says Dr Cheyne, "that they who have formed a lively conception of the personal appearance of Satan from prints or paintings, have often had the conception realised in nervous or febrile diseases, or after taking narcotic medicine; and it is but charitable to believe that Popish legends which describe victories over Satan by holy enthusiasts, have had their origin in delusions of the senses rather than that they were pious frauds."—"If it were," says Baxter, "as some fancy, a possession of the devil, it is possible that physic might cast him out. For if you cure melancholy (black bile), his bed is taken away, and the advantage gone by which he worketh. Cure the bile, and the choleric

operations of the devil will cease: it is by such means and humours in us that the devil worketh."

I do not propose to discuss, except in general terms, the treatment of incipient paralysis, apoplexy, softening of the brain, and other organic cerebral diseases: I shall have to consider in detail this important subject in a succeeding work.

In incipient organic disease of the brain, much may be effected by treatment in arresting its progress, provided it is brought at an early period within the range of remedial treatment.

The cautious abstraction of a small quantity of blood from the head, when the symptoms resemble active congestion of the vessels, the administration of mercurial alteratives, a careful attention to the state of the secretions, condition of the skin, and renal functions, combined with counter-irritation and an abstinence from all mental agitation and anxiety, will often be found of benefit in the incipient stages of apoplexy and paralysis. In a certain type of case connected with organic or functional disease of the heart, after relieving the local head symptoms, great benefit will be derived from a combined use of opium, digitalis, and iodide of potassium. Where there is laborious action of the heart, consequent upon hypertrophy or valvular disease, the medicines referred to almost invariably alleviate the cardiac as well as the head symptoms.

There are types of incipient apoplexy and paralysis only to be successfully treated by means of tonics and stimulants. Apparently acute attacks of cerebral hemorrhage and paraplegia yield speedily to the administration of iron, quinine, and various preparations of zinc and copper. In this anæmic class of case, wine and generous diet will be indispensable. The pulse is generally weak, action of the heart feeble, and the blood deficient in red globules. This

is indicated by the pallor of the countenance and general state of anæmia. The patient complains of great muscular debility and nervous depression. Associated with the preceding symptoms, there will be observed *threatenings* of apoplexy and paralysis.

In incipient general paralysis, much benefit is derived from a persevering and continuous course of *tonics*—viz., the various preparations of strychnine, zinc, the sulphate, valerianate, and lactic of zinc, and arsenic, combined with iron and quinine.

In this disease we occasionally observe symptoms of temporary congestion of the brain. For its relief one or two leeches may be applied to the schneiderian membrane.

In the treatment of incipient white softening of the brain, it will be necessary, in the majority of cases, to give tonics and stimulants. The early stages of softening may be treated in the way previously suggested. Much, however, will depend upon the characteristics of each individual case. In some patients it will be necessary to apply, even at the first onset of the disease, if the physician be fortunate enough to see the patient at this early stage, counter-irritation to the neck, as well as to use dry-cupping. In these cases Dr Chapman's iced bag may be applied to the spine. It has been spoken favourably of, and is entitled to consideration. In particular formations of the cranium, states of the heart and cerebral vessels, we may, whilst sustaining the powers of life by the therapeutic agents specified, cautiously relieve local head symptoms by means of leeches. But antiphlogistic treatment will rarely be found necessary.

It is unnecessary, whilst advising a course of tonic medical treatment, generous diet, and a liberal use of wine in incipient softening of the brain, to suggest the import-

ance of carefully protecting the patient from mental labour, irritation, and anxiety. It will be useless to grapple by means of medicine with this serious cerebral disease, unless the mind is most scrupulously preserved from an undue exercise or perturbation.

It will often be found desirable to advise the patient to travel, or to go to a remote part of the country, with the view of removing him from all temptation to work, or to recommend a sea voyage, after his state of general mental and cerebral health has been well analysed and remedially treated.

Incipient softening of the brain may be treated by these remedies. Every case, as it presents itself to the physician, will exhibit peculiar and characteristic idiosyncrasies, or morbid phenomena, requiring a modification of treatment, medical, moral, and hygienic.

Do we estimate in a manner commensurate with its grave and vital importance the necessity of watching with the most scrupulous care, the cerebral symptoms that follow all mechanical injuries to the head? A vast amount of organic, chronic, incurable disease of the brain and disorder of the mind can be directly traced to this cause.

Positive and undoubted evidences of disease of the brain may be present without exciting a suspicion as to the cerebral origin of the affection or character of the symptoms. A man receives a blow upon the head. He suffers from partial concussion of the brain, or is merely stunned. He recovers without any apparent inconvenience from the injury, but subsequently head symptoms show themselves, clearly the consequence of the injury which the brain has sustained many years previously.

The importance of this subject cannot be exaggerated. Cases of epilepsy bidding defiance to all treatment; tumours, abscesses, cancer, softening of the brain, as well as insanity

in its more formidable types, could unquestionably be traced back for varying periods of one, two, five, eight, ten, fifteen, and even twenty years, to damage done to the delicate structure of the brain by injuries inflicted mechanically upon the head.

In some instances, accidents of the kind may not be followed by serious results; but in certain temperaments, or conditions of bodily health and in particular predispositions, we may safely predicate the development of chronic disease of the brain as the result of neglected blows on the head. Injuries of this character occurring to persons of a strumous habit, or suffering from long-continued debilitating diseases, impaired and perverted nutrition, overwrought and anxious minds, or a constitutional liability to mental or cerebral disease, are frequently followed by serious and often fatal results.

A vigilant and watchful eye should be kept upon those who have been exposed to such accidents, with a view of anticipating, if possible, the development of cerebral symptoms. Timely and judicious measures may arrest the progress of many of the organic affections of the brain originating from mechanical causes, if the patient's condition immediately after the injury is attended to, the state of his cerebral health for a time carefully regarded, the incipient symptoms of brain disorder, when they present themselves, recognised and subjected to prompt and appropriate treatment.

Softening of the brain, the formation of cerebral abscesses, the slow growth of encephalic tumours, subtle degenerations of the nervous tissue in the form of cancerous growths (all the remote effects of injuries to the head), are, in my opinion, *preventable* diseases, if the unmistakeable warnings afforded in a great many instances are not neglected, unrecognised, and untreated.

In severe blows upon the head it is important to keep in check all tendency to cerebral congestion and inflammation in the portion of the brain immediately under the portion of the scalp and skull that has been injured. By closely watching for *local* cerebral disorder we may prevent those states of chronic irritation, congestion, and inflammation that so frequently lead to disorganisation of structure in the form of tumours, softening, and abscesses. In the days of the great surgeon Pott, venesection was almost universally practised after the head had sustained a mechanical injury. This mode of treatment has, in modern times, been nearly exploded. In such cases local abstraction of blood by means of leeches applied over or in the immediate neighbourhood of the injury is decidedly advantageous in preventing the development of organic disease of the brain. It will often be necessary to give mercurials and apply ice or cold evaporating lotions to the head.

In some cases of severe cranial injury, setons should be applied to the nape of the neck, as well as issues in the scalp along the course of the sutures, near the situation of the blow, when the physician has reason to believe that local cerebral and meningeal mischief exists. It may often be necessary, in particular diatheses, to sustain the vital powers by means of iron, quinine, stimulants, strychnia, and generous diet, whilst the cerebral irritation and congestion are being attacked by the means suggested. It is in the power of the physician to arrest the progress in the fatal cerebral disorganisation that so often follows, after the lapse of years, injuries to the head, if he do not sleep at his post, and is awake to the first approaches of brain disorder. Under such circumstances watch for head symptoms. "It is not enough," as Dr Graves remarks, when referring to the obscure cerebral affections observed in some cases of fever, "to treat them when they come,

they MUST BE SEEN and MET COMING." Wise and sagacious counsel.

Having spoken in a previous chapter of the recent pathology of epilepsy, I proceed to the consideration of its treatment. There is in reality no specific cure for epilepsy. The belladonna treatment was at one period generally adopted, and if this drug did not succeed in curing the patients, it certainly very materially alleviated their sufferings.

Trousseau has employed this remedy for thirty years, and he says, as the result of his experience, that it is the least inefficacious remedy that he has ever tried or seen tried. His mode of prescribing the drug is as follows :—

℞ Extracti Belladonnæ } āā gr. $\frac{1}{6}$
Pulv. fol. Belladonnæ }
Pro pil. i. ; mitte 100 similes.

Trousseau advises that during the first month of his illness the patient should take one of these pills every day—in the morning if his attacks occur chiefly in the day-time, or in the evening if they are nocturnal. One pill is added to the dose every month, and whatever be the dose, it is always taken at the same period of the day. Trousseau suggests that excessive dilatation of the pupils, and very uncomfortable dryness of the throat, indicate toxic effects beyond which the drug should not be pushed.

Belladonna may be given for one, two, three, or four years, in compliance with the instructions previously laid down.

The sulphate of atropia, so much eulogised in the treatment of epilepsy, is considered by Trousseau to be inefficacious.

The various preparations of silver, copper, and of zinc, have been used as remedies for epilepsy, combined with or given without belladonna.

Trousseau has in some cases given belladonna in the morning and the nitrate of silver in the evening. The following is Trousseau's recipe for the nitrate of silver pills :—

℞ Argenti Nitratis, gr. ij.
Pulveris Acaciæ } q. s. pro pil. x.
Aquæ distillatæ }

Dr Duclos of Tours has treated epilepsy with a certain amount of success by means of *digitalis* in the form of the *hydro-alcoholic extract*, each pill to contain one grain of the extract. He for the first day gives one pill, the second day two pills, one night and morning; on the third day three pills, one in the morning and two in the evening; on the fourth day four pills, two in the morning and two in the evening; on the fifth day, two pills in the morning and three in the evening. This treatment may be pursued for twelve days until a perceptible effect is produced on the circulation.

The most modern and apparently the most successful remedy for epilepsy is the *bromide of potassium*. The dose varies from ten, fifteen, twenty, and thirty grains for an adult night and morning. This medicine should be given when the stomach is empty—viz., early in the morning and late at night. Its potency appears to be increased when combined with the iodide of potassium and a few grains of the bi-carbonate of potash.

The late Dr Victor Bazire was of opinion that moderate doses of bromide of potassium were more effectual in crushing the disease than larger doses of the medicine so commonly prescribed in the treatment of epilepsy.

Bromism should be carefully avoided.

The recognised remedies for the treatment of locomotor ataxy are belladonna, spirits of turpentine, nitrate of silver, and sulphur baths. The pains, which are often excessively

acute in this disease, may be moderated by flagellation or cutaneous Faradisation. When the pain is excessive, the extract of *Canabis indica* and other potent sedatives may be tried. The treatment found most successful in these cases when the general health is disordered are tonics, cod-liver oil, iodide of iron, ammonia, and bark.

I have spoken of impairment of attention, the effect of certain morbid conditions of the cerebral health. Such cases are generally associated with a depressed state of the nerve and vital force, impoverished condition of the blood, and impaired state of the nutrition of the brain. A stimulating plan of treatment, generous diet, cod-liver oil, combined with the sulphate and valerianate of zinc, quinine, iron, and other blood tonics, are valuable remedies in these cases. In instances of impaired intelligence, associated with active head symptoms, vertigo, headache, &c., such as to justify the belief that capillary congestion exists, judicious local depletion and counter-irritation are often of much service. The abstraction of blood, however, is rarely necessary in these cerebro-psychical affections, and yet I have known patients to be greatly relieved by a modified course of antiphlogistic treatment. Minute doses of strychnine with iron, the various preparations of arsenic with and without iron, and ammoniated solution of copper, I have found of considerable benefit in these cases when judiciously administered. I am of opinion that the therapeutic value of arsenic and copper is not sufficiently appreciated in the affections of the brain and nervous system, particularly if associated with states of vital depression.

The faculty of attention, like that of memory, is susceptible of being greatly cultivated and strengthened by regular and continuous exercise. Habits of slovenly thought and careless attention are easily formed, and

when once contracted cannot be easily combated. The effort to subject the attention to the controlling influences of the will may at first be difficult, but all obstacles will vanish before a steady and unrelaxed determination to conquer and bring into a state of subjugation the restive faculty. "When we turn," says Sir W. Hamilton, "for the first time, our view on any given object, a hundred other things still retain possession of our thoughts. Even when we are able, by an arduous exertion, to break loose from the matters which have previously engrossed us, or which every moment force themselves on our consideration, even when a resolute determination or the attraction of the new object has smoothed the way on which we are to travel, still the mind is continually perplexed by the glimmer of intrusive and distracting thoughts, which prevent it from placing that which should exclusively occupy its view in the full clearness of an undivided light. How great soever may be the interest which we take in the new object, it will, however, only be fully established as a favourite when it has been fused into an integral part of the system of our previous knowledge, and of our established associations of thoughts, feelings, and desires. But this can only be accomplished by time and custom. Our imagination and our memory, to which we must resort for materials with which to illustrate and enliven our new study, accord us their aid unwillingly, and indeed only by compulsion. But if we are vigorous enough to pursue our course in spite of obstacles, every step as we advance will be found easier; the mind becomes more animated and energetic, the distractions gradually diminish, the attention is more exclusively concentrated upon its object, the kindred ideas flow with greater freedom and abundance, and afford an easier selection of what is suitable for illustration. At length our system of thought harmonises with our

pursuit. The whole man becomes, as it may be, philosopher, historian, or poet; he lives only in the trains of thought relating to this character. He now energises freely, and consequently with pleasure, for pleasure is the reflex of unforced and unimpeded energy. All that is produced in this state of mind bears the stamp of excellence and perfection." *

In cases of impairment and loss of memory, clearly the effect of physical disease or irritation established in the brain, or in some part of the body closely sympathising with this organ, no good will result from an attempt to strengthen or revivify this mental power, apart from a careful pathological investigation of the *cerebral* state of the patient, and the adoption of a mode of *physical* and *psychical* treatment suggested by such examination. In all acute affections of the brain implicating the memory, it is useless to battle with a *symptom* or an *effect*, without carefully considering the *cause*. Great benefit occasionally follows the exhibition of nervine tonics, such as iron, with or without strychnine, arsenic, the syrup of the phosphate of iron, zinc, copper, &c., in certain cases of impaired memory consequent upon an exhausted condition of the nerve and vital force.

In less acute conditions of defective memory, advantage undoubtedly arises from judicious mental efforts to revivify the faculty, but if these should be succeeded by vertigo, headache, or other physical symptoms of distress, the mind should be left in a *passive* state until the cerebral condition is such as to justify a repetition of the experiment. It occasionally occurs that a language previously well known but apparently forgotten, has been suddenly revived during the attempt made to seize hold of and resuscitate it. When making these efforts we should be careful not to strain the

* "Lectures on Metaphysics," by Sir W. Hamilton, Bart., vol. i. p. 255.

faculty of reminiscence beyond justifiable limits. How often the attempt to recall ideas to the mind is abortive? Under these circumstances, if the brain is permitted to be in a quiescent state, the ideas will frequently recur spontaneously to the mind. The endeavour thus made to remember past impression appears to establish a cerebral and psychical oscillating movement, which continues in the vesicular neurine of the brain after all conscious efforts to resuscitate apparently obliterated ideas have ceased.

How often does it happen that all attempts to exercise the memory previously to retiring late at night to rest are found to be nugatory; but how brilliant, vivid, and life-like are the ideas in the morning, following a state of brain activity, consequent upon a satisfactory amount of cerebral and psychical repose? Impressions which a person is not conscious of previously to sleep have undoubtedly been made upon the mind, and the oscillations thus induced in the nerve vesicle have continued during the night, the brain being clearly and forcibly impinged with the ideas which were traced upon it on the previous evening.*

* "But say you the memory decays? No doubt of it, if you exercise it not, or indeed if it be naturally deficient. Themistocles knew the names of all his citizens. Now, can you imagine that when he was advanced in years he used to meet Aristides and compliment him by the name of Lysimachus. For my part, I not only know the names of my contemporaries, but of their fathers and grandfathers, nor when I read a monument am I the least afraid of forgetting it, for by reading that, the remembrance of the dead comes fresh to my mind. I never heard of any old man that had forgotten where he had hid his treasure. Things which they regard they remember, the securities they have out, and who are indebted to them, as well as to whom they are indebted. How many things do you lawyers, priests, augurs, and philosophers remember? Ingenuity remains in old men who love study and application to business, which is plainly seen not only in persons of a more conspicuous and exalted rank, but in private life. Sophocles wrote his tragedies at a very great age, and because his studies seemed to take him off from his family affairs he was called in judgment by his sons, according to the custom that still prevails, that the goods of fathers who are ill managers

During the stage of convalescence, and occasionally after recovery from attacks of insanity, patients suffer from a distressing rapidity of thought, and an acute sensitiveness to impressions, physical as well as moral, which give rise to great mental anxiety. There is a want of cerebral and mental tranquillity, of which they have been painfully conscious. The tempest of the mind has subsided, but has left a ruffle on the surface of the brain which time and an immunity from excitement only can remove.

Dr Gregory was acquainted with a patient who for a week after his restoration to health was harassed, particularly during his dreams, by the same rapid and tumultuous thoughts, and the violent emotions which had agitated him whilst insane.

should be forbidden them, so that the judges might remove him from the disposal of his estate as a dotard or delirious. But at that time it is said he recited the story of Œdipus Coloneus, which he had just written, to the judges, withal asking them if that verse seemed the product of a foolish man's brain; and having finished the recital, was freed from the imputation of the judges. Well, then, was this great man, was Homer, Hesiod, Simonides, Stesichorus, or those I mentioned before, Socrates, Gorgias, or those princes of philosophers, Pythagoras, Democritus, Plato, Socrates, and after them Zeno, Cleanthes, or him whom ye have seen at Rome, Diogenes the Stoic, restrained or silenced in their studies by old age? And were not their works equal to their lives? But, not to recount those divine studies, I might name some Romans on the Sabine Farm, my neighbours and intimate acquaintance, to whom no labour is too much for sowing, gathering in, and laying up their stores. Yet this is not much to be admired at in them, for no man is so old but he thinks to live another year. But they are intent often on those things which they know are of the least consequence to them. And as our Statius says in his 'Synephebis,'—

'Serunt arbores quæ alteri Sæculo prosint.'
('The trees they plant, another age enjoys.')

And very well might the husbandman who was old, when the question was asked him for whom he planted, answer, 'For the immortal gods, who were willing that I should not only receive these things from my ancestors, but provide the like for my posterity.'"—*Cicero on Old Age*, Dialogue vi.

A man deranged in his mind imagined himself to be an exalted personage. For some months after his recovery he never could entirely dispossess his mind of the idea of his having acquired a certain degree of social elevation. He had no belief in his having obtained regal distinction, for this delusion no longer existed in his mind; but "I believed," to use his own words, "I was a *little* higher in rank than the class I legitimately belonged to."

In these cases there undoubtedly exists a cerebral action or oscillation in the nerve vesicle, which continues after the balance of the mind has been restored. It is phenomena like these that render the stage of convalescence following acute insanity most critical.

The faculty of memory is susceptible of being greatly improved by regular exercise.* Sir Isaac Newton, at one period of his life, entirely forgot the contents of his celebrated "Principia," in consequence of his neglecting to exercise the memory. The famous Mr Hude spent several years in close application to conic sections. Leibnitz, in returning from his travels, called to see him, and expected to have been highly entertained by conversing with him on the subject of his studies. "Here," said Mr Hude, sighing, "look at this manuscript; I have forgotten everything in it since I became burgomaster of Amsterdam."

Lord Bacon was of opinion that the memory is not strengthened by repeated efforts to fix certain ideas on the mind; in other words, that if a passage which we wish to recollect is carefully read *ten*, it is more likely to be remembered than if it were read *twenty* times, provided an effort be made to *recite the words* after each reading. "*Quæ*

* The late Lord Lyndhurst, who was remarkable for his wonderful memory, informed Dr Hawksley, who attended him during the last few years of his life, that he was in the constant habit of improving this faculty by committing to memory every day a piece of poetry or prose. This practice was persevered in up to a short period before his death.

expectantur et attentionem excitant, melius hærent quam quæ prætervolant. Itaque si scriptum aliquod vicies perlegeris, non tam facile illud memoriter disces, quam si illud legas decies, tentando interim illud recitare et ubi deficit memoria, inspiciendo librum." *

The mental remedies for loss or decay of memory, says Rush, are a "frequent repetition of what we wish to remember. The benefits of this practice are strikingly illustrated in the history of a London printer, who, after working seven years in composing the Bible, was able to repeat every chapter and verse in it by memory. The advantage of this mode of strengthening the memory is seen in persons who repeat questions or whole sentences that are proposed to them before they can answer them. The door of the mind in such people requires two knocks before it can be opened, one by the person who asks, and the other by the person who answers the questions; or, to speak more simply, the mind requires a double impression from words before it is able to convert them into thoughts. Again, calling in the aid of two or more of the senses to assist in the retention of knowledge is found beneficial in cases of impaired memory. It is said that we seldom forget what we have handled or tasted, seen or heard. The eyes assist the ears, and the ears the eyes. Children and the vulgar, whose memories are alike weak, are unable to retain what they read unless they receive it at the same time through their eyes and ears; hence their practice of reading, when alone, with an audible voice. In some cases they are unable to remember even their own thoughts without rendering them audible; hence we so often hear them talking to themselves. The same thing is observed in the low and chronic state of insanity, partially from the same cause. Where the eyes and ears cannot both be

* Nov. Org. lib. ii. aph. 26.

employed in acquiring knowledge, the use of the ears should be preferred.

"Julius Cæsar says the reason why the ancient Druids did not commit their instructions to writing was, that their pupils might, by receiving them through their ears, more easily acquire and more durably retain them in their memories. The ear is less apt to be distracted than the eye by the obtrusion of surrounding objects, the one being more constant than the other. The mind, moreover, is more concentrated in hearing than in seeing. The truth of these remarks is confirmed by few of the sayings or songs learned by the ear only, and in the nursery, being ever forgotten. The memory is improved by exercise. Its low state among savages is occasioned by the smaller number of objects upon which they exercise it. The memory is aided in hearing and after reading by shutting the eyes. In this way Mr Woodfall received and retained the speeches of the members of the British Parliament until he committed them to paper, after which he published and forgot them. The memory is restored and strengthened by means of association. The principal circumstances which influence this operation of the mind are time, place, pleasure, pain, sounds, words, letters, habit, and interest. Ideas and even words that have been forgotten are often recalled by conversation upon subjects that are related to them. This is effected by some incidental word or idea awakening, by association, the word or idea we wish to revive in our minds. Dr Van Rhor, a Danish physician, who visited Philadelphia in the year 1793, informed me that he could at any time excite the remembrance of words by committing two or three lines of poetry to memory. Singing aids the memory in acquiring a knowledge of words, and of the ideas connected with them. A song is always learned sooner than the same number of

words not set to music.* Reading or repeating what we wish to commit to memory the last thing before we go to bed impresses ideas on the mind." †

The habit of keeping a common-place book for the purpose of dotting down occurrences, thoughts, or passages from books, with the view of fixing them on the recollection, is thought to be injurious instead of beneficial to the mind. Undoubtedly such would be the result if these memoranda were not repeatedly brought under the cognisance of the intellect, and past impressions thus reproduced to the mind and impressed on the memory. It is not judicious, however, to rely too implicitly upon such a mode of refreshing and invigorating the faculty.

Montaigne frequently complains in his writings of loss of memory. He cites many extraordinary instances of his ignorance in regard to some of the ordinary topics of information. It is obvious, however, to any one who reads his works with attention, that this ignorance did not proceed from an original defect of memory, but from the singular or whimsical direction which his curiosity had taken at an early period of life. "I can do nothing," says he, "without my memorandum-book, and so great is my difficulty in remembering proper names that I am forced to call my domestic servants by their offices. I am ignorant of the greater number of our coins in use; of the difference of one grain from another, both in the earth and in the granary;

* "I remember having seen, while six months in the service of MM. Pariset and Mitivié, an insane woman whose ideas were so incoherent that, though always speaking, she did not associate two syllables capable of composing a word. However, when she sang, which she did willingly when the example was set, she repeated very clearly, not only the air, but the words. Thus the memory, unfaithful in cases where the words were ideas, became clear and precise when the words were songs."—*Gratiolet.*

† "Medical Inquiries and Observations upon the Diseases of the Mind," by B. Rush, M.D. Philadelphia, 1855. P. 281.

what use leaven is of in making bread, and why wine must stand some time in the vat before it ferments." Yet the same author seems evidently, from his writings, to have had his memory wonderfully stored with an infinite variety of apophthegms, and of historical passages which had impressed his imagination, and to have been familiarly acquainted not only with the names, but with all the absurd and exploded opinions of all the ancient philosophers.

The memory often becomes impaired in consequence of an undue straining of the faculty in early life.

It is with this as with other intellectual faculties—the amount of pressure to which it is exposed should have an equitable relation to its natural condition of vigour. It would be manifestly unphilosophical to subject all memories to the same degree of pressure, or to imagine that because a few minds are capable of committing expeditiously and accurately to memory, within a prescribed period, a certain degree of knowledge, that every intellect is competent, with facility, to execute a similar task. There are as great differences in the *mental* as in the *physical* capacities of children. It is consequently absurd to deal with them *en masse*, as if the human mind were a mere machine, capable, without scientific discrimination of the same amount of sustained intellectual labour degree and facility of progress. It is undoubtedly an important element in education to carefully invigorate and discipline the memory in early life; but in effecting this most desirable object it is our duty to avoid mistaking *natural* mental dulness for culpable idleness, and *organic* cerebral incapacity for inexcusable indifference to intellectual culture and educational advancement.

When speaking of the injurious effects of overstraining the memory in early life, it has been observed—"The faculty of memory is much too hardly pressed by the practice of

some schools. It is a great temptation to a schoolmaster, who may be overworked or indolently inclined, to have recourse to long repetition tasks, because it economises his own time. It keeps a whole class actively employed, and costs him a very little time to hear what it has cost them a very long time, comparatively, to learn. This is a very different thing from labouring *with* boys, and patiently solving their difficulties."*

"I am quite aware that this exercise, in its degree, is very useful; that to commit passages to memory in a language conduces to a thorough acquaintance with it, and a power of composing in it. But this is carried beyond all bounds in some schools. In that in which I was educated it was the custom, once a-year, that boys in the middle and lower classes should repeat all the Latin and Greek poetry they had learned in the year, with such addition to it, or fresh matter, as each boy could accomplish. So much did our place in the school depend on success in this, and so severe was the rivalry, that although we were then only about fourteen years of age, the usual quantity for the boys to repeat was from six to eight thousand lines, which we did in eight different lessons, and it took about a week to hear us. One boy, in my year, construed and repeated the enormous quantity of fourteen thousand lines of Homer, Horace, and Virgil. I heard him say it. The master dodged him about very much, but he scarcely ever missed a single word. One wonders in what chamber of the brain it could possibly have been stowed away.

"Now, I do not think that this excessive strain on the mnemonic faculty is calculated to strengthen it; nor do I believe that this or any other faculty ought to be so severely pressed. I have a lively recollection of the long-sustained

* "Mental Vigour; its Attainment impeded by Errors of Education," by Archdeacon Fearon. London, 1859.

exertion it required; how week after week we rose early, and late took rest, in our anxiety to outstrip others, upon which our station in the school, and, I may say, the *bread* of many of us depended. This custom is, I hope, now, though not given up, modified. Boys ought to be rather repressed than encouraged in such a trial. Do not send them out into the world with minds overweighted, and with things which, after all, are in such an excess not needed. Education, as a rule, ought to be directed more to what elicits thought than what merely encourages memory. Feats of repetition are but poor offerings to the goddess of wisdom—rendering unto Minerva, as it were, only a lip service." *

I should regret if, in the preceding observations, I were to convey the impression that I estimated lightly the benefit to be derived from a steady and persevering culti-

* "Children are made to fill their heads with words, or are severely punished, and by these means become dull, heavy, and stupid, because, instead of cultivating their reason, their masters seem to aim at fatiguing and weakening their memory by their over-exertion. Instead of teaching children to consider and examine a thing in order to understand it, these masters oblige them to pronounce it fifteen or twenty times with a view to imprint it on their memory. Boerhaave styled this a piteous mode of instruction. Baron Haller observes that the truth of this is but too palpable, because instead of enabling them to analyse a compound idea, and making them feel the due value of the simple ideas it includes, they teach them only the syllables and words that express them, and thus add obstacle after obstacle to the improvement of the understanding. This absurd method, which is so generally adopted, makes all the knowledge of children consist, not in the understanding, as it ought to do, but in memory. This seems to be the reason why so many young people who have shone at school make so diminutive a figure when they launch into the world. As the chief object of their studies was to load their memories with things which, as they never understood, were soon forgotten, so they find themselves incapable of observing or judging, and in general of thinking, because in their younger days they had never been taught to think for themselves. Baron Van Swieten tells us he has seen children of the most promising dispositions rendered stupid, and even epileptic, through the mismanagement of their masters."—*Zimmerman's Experience in Physic.*

vation of the memory in early life. It is, in every point of view, most essential that this faculty should be carefully developed, disciplined, and invigorated during the scholastic training which most boys intended for the universities, and subsequently for political and professional life, have to undergo. The knowledge then acquired is seldom if ever obliterated from the mind, except by disease. How much of the pure, refined, and elevated mental enjoyment in which men of education luxuriously revel in after years is to be traced to that period when they were compelled to commit to memory often as a task, but more frequently as a part of the regular curriculum of the schools, long and brilliant passages from ancient and modern classical authors! Do we ever regret when our bark is tossed upon the noisy and tempestuous ocean of life, having had to go through such an intellectual ordeal? Is not the memory thus stored with an amount of imperishable passages from the poets, orators, and historians of antiquity replete with elevated thoughts, profound wisdom, exquisite imagery, noble and magnanimous sentiments?

It would be absurd to undervalue a system of educational discipline productive of such obvious advantages. My animadversions are directed against the *too exclusive* cultivation and *undue straining* of the memory. We are disposed to forget that there are higher and more exalted mental faculties that require to be carefully expanded and fortified before the mind is fitted to enter into the great arena of life, and qualified to contend successfully in its many battles, struggles, and trials.

Before concluding this subject I would briefly address myself to the consideration of two important questions intimately connected with the interesting facts previously discussed, viz.:—

1. *At what particular period of life does the intellect begin*

to decline, and when, as a general rule, is first observed the commencement of an insenescence of the intellectual principle?

2. *Is great strength of memory often associated with limited powers of judgment and reasoning, and conjoined with a low order of intelligence?*

"In old persons," says Cabanis, "the feebleness of the brain, and of those functions which originate therein, give to their determination the same mobility, the same characteristic uncertainty which they possess during childhood; in fact, the two conditions closely resemble each other." The Professor of Physiology at the University of Montpelier, Dr Lordat, denies the truth of this aphorism, and terms it a "popular delusion." This able physiologist and philosopher maintains that it is the *vital*, not *intellectual* principle, that is seen to wane as old age throws its autumnal tinge over the green foliage of life. "It is not true," he says, "that the intellect becomes weaker after the vital force has passed its culminating point. The understanding acquires more strength during the first half of that period which is designated as old age. It is impossible," he says, "to assign any period of existence at which the reasoning power suffers deterioration." Numerous illustrations are adduced to establish that senescence of the intelligence is not isochronous with that of the vital force.

The conversation of the celebrated composer Cherubini, at the age of eighty, is said to have been as brilliant as during the meridian of his existence. Gosse composed a *Te Deum* at the age of seventy-eight. Corneille, when seventy years of age, exhibited no decay of intellect, judging from his poetic address to the king. M. des Quensounnières, the accomplished poet, at the advanced age of one hundred and sixteen, was full of vivacity, and fully capable of sustaining a lively and intelligent conversation.

M. Leroy, of Rambouillet, at the age of one hundred, composed a remarkably beautiful and spirited poem. Abbé Taublet, when speaking of the intellect of Fontenelle when far advanced in life, says—"His intellectual faculties, with the exception of a slight defect of memory, had preserved their integrity in spite of corporeal debility. His thoughts were elevated, his expressions finished, his answers quick and to the point, his reasoning powers accurate and profound." Cardinal de Fleury was prime minister of France from the age of seventy to ninety. At the age of eighty Fontenelle asked permission, on the ground of physical infirmity, to retire from the post of perpetual secretary of the Academy of Sciences. The Prime Minister refused the request. Three years subsequently, Fontenelle again expressed a wish to resign office. "You are an indolent, lazy fellow," writes the Cardinal; "but I suppose we must occasionally indulge such characters." Voltaire, when at the age of eighty-four, came to Paris, agreeably to his own language, "*to seek a triumph and to find a tomb.*" Richelieu died at the age of ninety-three, full of mental vigour. A few minutes before his death, his daughter-in-law, wishing to encourage him, said, "You are not so ill as you would wish us to believe; your countenance is charming." "What!" said he, with the utmost vivacity, and full of wit and humour, "*has my face been converted into a mirror?*"*

Mr Waller wrote, when he was past eighty, a poem entitled "A Presage of the Ruin of the Turkish Empire, presented to his Majesty King James II. on his Birthday." . . . "Poetry had been the supreme delight of his youth, and he refreshed his old age with the same cordial; and it cannot be denied that, whatever traces of decay may

* *Vide* "Lectures on Mental Dynamics," by Professor Lordat. Translated by Dr Spiers for the "Journal of Psychological Medicine.

appear in his later compositions, yet Longinus' observation of Homer is justly applied to our poet, it was the old age of Mr Waller. Could it be supposed that the verses he wrote on the Earl of Roscommon's translation of Horace's 'Art of Poetry' were the composition of a man twelve years beyond his grand climacteric? for he was then seventy-five. Even at this advanced age he continued to write with beauty and spirit. Not many years after this, he turned his muse, as became his age, towards heaven, for which flight his soul had evidently been preparing. And though his 'Divine Poems' were written at fourscore and after, yet the same elevation and fire, though with a little fainter flame, glows in them as in his earlier productions. He intended to crown all his labours with the poem, 'of the last verses in the book,' which can never be too much admired, so natural are the images, so lively the representation of old age, so feelingly does the author speak of its infirmities, and all is so poetical." *

John Maplesoft was a learned physician and pious divine. He was born June 16, 1631. . . . . He was one of the directors of Greenwich Hospital. In 1707 he was chosen president of Sion College, having been a benefactor both to that building and library. He continued to preach in his church of St Lawrence Jewry (where he was also Thursday lecturer) till he was past eighty years of age; and when he thought of retiring, he printed a book entitled "The Principles and Duties of the Christian Religion," a copy of which he sent to every house in his parish. He died in the ninety-first year of his age.†

Titian, the greatest painter of the Venetian school, and the founder of the true principles of colouring, continued to exercise his art until 1576, when he died of the plague at Venice, in the ninety-sixth year of his age. Soon after

* Biographia Britannica. † Ibid.

1553 (at the age of seventy-three or seventy-six) he painted, at Innspruck, the portraits of Ferdinand, King of the Romans, his queen, and all his family, in one picture, which is said to have been his masterpiece. Benjamin West, President of the Royal Academy, was born in 1738, and in 1814, aged seventy-six, exhibited a picture of "Christ Rejected by the Jewish High Priest," one of his best works; and in 1817, aged seventy-nine, he painted his picture of "Death on the Pale Horse." He died at the age of eighty-two, in full mental vigour. Fontenelle wrote his "Elements of the Geometry of Infinites" in 1727, at the age of seventy.

Richard Cumberland, Bishop of Peterborough, was born July 15, 1632. When Dr Wilkins had published his Coptic Testament, he made a present of a copy to his lordship, who sat down to study it when he was past eighty-three. At this advanced age he mastered the language, and went through great part of this version, and would often give excellent hints and remarks as he proceeded in reading it. At length, in the autumn of the year 1718, he was struck with palsy, from which he never recovered.*

Handel's last appearance in public was on the 6th of April 1759. He had then reached the advanced age of seventy-five. After that period his faculties rapidly declined, and it was evident he had not long to live. Of this he was himself fully aware, and prepared to meet his end with a resignation and composure based upon a sincere belief in the doctrines of Christianity. As the close of his life approached, he signified a fervent wish that he might expire on Good Friday, and it is singular that he breathed his last on that day.

Ben Jonson died in 1637, aged sixty-three. He composed, literally on his deathbed, that exquisite fragment of a

* Biographia Britannica.

pastoral drama, the "Sad Shepherd," which in beauty and freshness of conception and treatment is the most youthful of all his works. Sir Isaac Newton died in 1727, aged eighty-four. About a month previously to his death he presided, with great ability and unimpaired intellect, at the Royal Society. Locke died in 1704, aged seventy-three. Some of his last compositions, which were written shortly before his death, published with his posthumous papers, were, "A Discourse on Miracles and Paraphrases, with Notes of the Epistles of St Paul." These works evidence no decadence in his powerful intellect. Dr Johnson died in 1784, aged seventy-five. He published his last work, "The Lives of the English Poets," only three years before his death. His last hours were employed in adjusting his worldly concerns with composure and exactness, as one who was fully conscious that he was soon to render his last account to God. His intellect was powerful and clear to the last. Whilst dying, he repeated the Lord's Prayer in the Latin language. Bacon died in 1625, aged sixty-seven, and retained to the last his love for science. Shortly before his death he was driving in the neighbourhood of Highgate; the day was cold, and the snow lay on the ground. It had previously occurred to him that snow might be used for the purpose of preserving animal substances from putrefaction, and, determined to try the experiment, he descended from his carriage, entered a cottage, and purchased a fowl, which with his own hands he stuffed with snow; in doing this he was seized with a sudden cold, which terminated fatally after suffering for a week.

Chaucer died at the age of seventy-two. During his retirement in 1391, and up to the time of his death, with an intellect in full vigour, he was employed in writing his learned treatise on the "Astrolabe," for the use of his son, a boy ten years old. Sir E. Coke died at the advanced

age of eighty-two. He spent his last days in full intellectual vigour in revising his numerous works. He died repeating with his last breath, "Thy kingdom come. Thy will be done."

Lord Eldon died at the age of eighty-six. He remained in the full enjoyment of his mental powers until shortly before his death, when, although his mind on the whole was clear and correct, yet he formed on some subjects erroneous impressions; and his pleasantry, though it very visibly waned, yet sparkled forth from time to time so as to recall its former brilliancy.

Lord Kenyon died at the age of seventy. He retained to the last his mental powers, gratefully expressing with his last breath his sense of the many blessings he had enjoyed, and his resignation to the will of God. Lord Hardwicke died at the age of seventy-three. He resigned the Great Seal in 1754, but he still continued to serve the public in a more private station with an unimpaired vigour of mind, which he enjoyed even under a long indisposition until his death. Lord Stowell died at the advanced age of ninety. His mind was vigorous until within two years of his death. Bolingbroke died at the age of seventy-three. His intellect was powerful to the last.

Sir Isaac Newton published the third edition of his great work, the "Principia," in February or March 1726, with a new preface by the author, dated January 12, 1725–6, at the age of eighty-three.*

The illustrious Lord Mansfield died at the advanced age of eighty-nine, in full and unclouded vigour of intellect. "So completely," says his noble biographer, "had he retained his mental faculties, that only a few days before his last illness his niece, Lady Anne Laving, in his hearing asked a gentleman what was the meaning of the word

* Brewster's Life of Sir Isaac Newton.

'psephismata' in Mr Burke's book on the French Revolution, and the answer being, that it must be a misprint for 'sophismata,' the old Westminster scholar said, 'No, psephismata is right;' and he not only explained the meaning of the word with critical accuracy, but quoted off-hand a long passage from Demosthenes to illustrate it. On the day of his death in the year 1793, he desired to be taken up and carried to his chair, but he soon wished again to be in bed, and said, 'Let me sleep; let me sleep.' It might have been expected that in the wandering of his thoughts which followed he might have conceived himself in some of the most exciting scenes of his past life, and that he might have addressed some taunt to Lord Chatham respecting the action for damages to be brought against the House of Commons; or, like Lord Tenterden, he might have desired the jury to consider whether the publication and the innuendoes were proved on a trial for libel, cautioning them to leave the question of *libel or no libel* for the court. But he never spoke more. On his return to bed he breathed freely and softly like a child, and with as calm and serene a countenance as in his best health, though apparently ever after void of consciousness. . . . . He had entered his eighty-ninth year. When he had a visit from Dr Turton, his physician, he thus broke off a discussion respecting his symptoms:—'Instead of dwelling on an old man's pulse, let me ask you, dear doctor, what you think of this wonderful French Revolution?' Dr Turton—'It is more material to know what your lordship thinks of it.' Lord Mansfield—'My dear Turton, how can two reasonable men think differently on the subject? A nation which for more than twelve centuries has made a conspicuous figure in the annals of Europe; a nation where the polite arts first flourished in the northern hemisphere, and found an asylum against the barbarous incursions of

the Goths and Vandals; a nation whose philosophers and men of science cherished and improved civilisation, and grafted on the feudal system the best of all systems, their laws respecting the descents and various modifications of territorial property; to think that a nation like this should not, in the course of so many centuries, have learned something worth preserving, should not have hit upon some little code of laws, or a few principles sufficient to form one. Idiots, who instead of retaining what was valuable, sound and energetic in their constitution, have at once sunk into barbarity, lost sight of first principles, and brought forward a farrago of laws fit for Botany Bay. It is enough to fill the mind with astonishment and abhorrence. A constitution—a constitution like this may survive that of an OLD MAN, but nothing less than a miracle can protect and transmit it down to posterity.' Horrors broke out and succeeded each other even more rapidly than he had anticipated; and, old as he was, he lived to hear the news that, every vestige of liberty being extinguished in France, the Reign of Terror was inundating the country with blood, and Louis XVI., the constitutional king, was executed on the scaffold as a malefactor." *

Is there any truth in the popular notion that great vigour of memory is often associated with limited powers of judgment, defective faculty of reason and reflection; in other words, conjoined with a low order of intelligence? Do facts establish such an hypothesis or justify the axiom, "*beati memoria, expectantes judicium?*"

If we base our conclusions on *á priori* reasoning we might, upon a superficial examination of the question, be disposed to answer the interrogatory in the affirmative. The faculty of memory is, in its fundamental features, an automatic or involuntary power. The mental process

* Campbell's Lives of the Lord Chief Justices, vol. ii. p. 558.

involved in the reception of ideas is in itself a simple and elementary one, not necessarily calling into action any complex intellectual operations. The majority of our ideas enter the mind whilst it is in a passive state. Little or no mental effort is required in order to grasp or receive the myriads of impressions that are momentarily forcing an admission into the mind. It is true that many of our ideas are the result of an active state of the intelligence. Among such are those which Locke designates as ideas of reflection, as contradistinguished from those of sensation. Whilst endeavouring to comprehend a subtle and profoundly philosophical process of reasoning, the mind is in the highest state of activity, with the view of seizing hold of and retaining the ideas embodied in the argument immediately suggested to consciousness. In order to effect this object a great and sustained effort of thought is required, and the more important faculties of the understanding are unavoidably called into active exercise. But to reproduce the ideas so imbibed, a voluntary act of the mind, termed recollection or reminiscence, is only necessary—that is, supposing the ideas do not occur to the mind as a spontaneous act of suggestion.

It requires no obvious exercise of thought or severe course of reasoning to enable us to recall to the mind, when once thoroughly comprehended, the leading principles embodied in Paley's "Evidences," Butler's "Analogy," Newton's "Principia," or Kant's "Pure Reason." They are indelibly (presupposing a healthy state of the brain and intellect) impressed upon the mind of every educated man conversant with these branches of literature, and are, by an effort of the will, easily made objects of consciousness. Considered metaphysically, the memory, although a most important faculty, is not one of a highly intellectual character. How different is the memory in this respect to the more exalted faculties of reason and judgment.

If my argument be tenable we can easily understand the proposition, that great vigour of memory is not *necessarily* associated with superior powers of judgment or strength of reasoning capacity. Hence an active state of this faculty may co-exist with an intellect to a degree congenitally defective; in other words, with a mind but partially and imperfectly developed.

Many facts have been cited to establish that extraordinary powers of memory are often allied to an enfeebled condition of the other mental faculties, amounting occasionally to imbecility.* Men with limited intellectual capacities have been endowed with most retentive memories. Idiots have exhibited the faculty of retention to a remarkable extent, and men of very limited and circumscribed powers of reasoning and of most defective judgment have had memories distinguished for their tenacity. I do not question the accuracy of this statement; but what does it establish? Let me consider for a moment the converse of the preceding proposition.

Are not mental powers of a high order, great intellectual vigour, extraordinary reasoning, and reflective faculties, often observed in combination with surprising strength of memory? Dr Johnson, the gigantic character of whose intellect no one questioned, was remarkable for the wonderful accuracy of his memory. He never forgot anything that he had seen, heard, or read. He often gave his intimate friends evidence of his wonderful capacity of retaining knowledge. Edmund Burke, of transcendant genius, was

* "There was," says Archdeacon Fearon, "a man in my father's parish who could remember the day when every person had been buried in the parish for thirty-five years, and could repeat with unvarying accuracy the name and age of the deceased, and the mourners at the funeral. But he was a complete fool. Out of the line of burials he had not one idea, could not give an intelligible reply to a single question, nor be trusted even to feed himself."—*On Mental Vigour*, &c.

also noted for having great powers of retention. Clarendon, Gibbon, John Locke, and Archbishop Tillotson, were all distinguished for having great strength of memory. When alluding to this subject, Sir W. Hamilton observes—"For intellectual power of the highest order none were distinguished above Grotius and Pascal, and Grotius and Pascal forgot nothing they had ever read or thought. Leibnitz and Euler were not less celebrated for their intelligence than for their memory, and both could repeat the whole of the 'Æneid.' Donnellus knew the '*Corpus Juris*' by heart, and yet he was one of the profoundest and most original speculators in jurisprudence. Muratori, though not a genius of the very highest order, was still a man of great ability and judgment, and so powerful was his retention that, in making quotations, he had only to read his passages, put the books in their places, and then to write out from memory the words. Ben Jonson tells us that he could repeat all that he had ever written, and whole books that he had read. Themistocles could call by their names the 20,000 citizens of Athens. Cyrus is reported to have known the name of every soldier in his army, Hortensius, after Cicero, the greatest orator of Rome, after sitting a whole day at a public sale, correctly enumerated from memory all the things sold, their prices, and the names of their purchasers. Niebuhr, the historian of Rome, was not less distinguished for his memory than for his acuteness. In his youth he was employed in one of the public offices in Denmark. Part of a book of accounts having been destroyed, he restored it by an effort of memory. Sir James Mackintosh, Dugald Stewart, and Dr Gregory, are examples of great talent united with great memory."

Seneca confessed that he had a miraculous memory, not only "to receive but to hold." "I myself," says Ben Jonson, "could, in my youth, have repeated all that ever I

had made, and so continued till I was past forty; since, it is much decayed in me. Yet I can repeat the whole books that I have read, and *poems* of some selected friends which I have liked to charge my memory with. It was wont to be faithful to me, but shaken with *age* now, and *sloth* (which weakens the strongest abilities), it may perform somewhat, but cannot promise much."

The facts previously referred to are susceptible at least of two important conclusions:—1. That an active and vigorous condition of the mental faculties is compatible with old age. 2. That a continuous and often laborious exercise of the mind is not only consistent with a state of mental health, but is apparently productive of longevity.

It is a fallacy to suppose as a general rule that the duration of life is shortened by literary pursuits. The great philosophers of antiquity, whose minds were earnestly engaged in the acquirement of knowledge and pursuit of truth, were proverbially long-lived. The German literati, who are known to devote themselves from a very early period to abstruse speculations, are remarkable for longevity. Blumenbach, the distinguished physician and naturalist, states that for the long period (exceeding half a century), he was associated with the most celebrated European universities, he did not witness a solitary example of any youth falling a victim to his ardour in the pursuit of intellectual distinction; and Eichhorn, one of the most voluminous writers of the day, the eminent philologist and historian, boldly affirmed "that no one ever died of hard study. The idea is preposterous. A man may fret himself to death over his books, or anything else; but literary application tends to diffuse cheerfulness, and rather to prolong than shorten the life of an infirm man." Dr Madden maintains that the exercise of the imaginative faculty is more likely to injure the health and shorten life

than the exercise of the reasoning and judging power of the mind. He lays down the axiom, "That the vigour of a great intellect is favourable to longevity in every literary pursuit where the imagination is seldom called upon."

The longevity of literary men has been attributed to the circumstance of the works upon which they based their reputation being the productions of their mature years. This may be true with reference to a few, but not the majority of the literati. This fact does not, however, militate against the principle that exercise of the intellect conduces to health and long life." *

Is it affirmed that persons possessing active poetical imaginations are short-lived? The table published by Dr Madden would perhaps warrant such an opinion, but he has omitted to include the names of many poets who attained to an advanced age. Chaucer died at the age of 72; Goethe at 83; Klopstock, the Milton of Germany, lived to the age of 79. In estimating the influence of the poetic temperament on longevity, we must not omit to consider other circumstances—viz., the habits of life, which may have contributed mainly to premature decay and death. Burns died at 38, but his death was accelerated by intemperance. Cowley died at the age of 49; his death was caused by a fit of drunkenness; and yet these two cases are cited by Madden in confirmation of the opinion that the exercise of the imagination shortens the duration of life.

Dr Caldwell observes that the influence of strong and well-cultivated moral and intellectual organs on the general health is soothing and salutary, strengthening instead of ruffling and wearing it out. Compared to the influence of the passions, it is as mild and wholesome nourishment contrasted with alcohol; or like the genial warmth of the

* Quarterly Review.

spring and autumn with the burning heats of summer;—life and health and comfort may last long under the former, while all is parched and withered by the latter. Finally, a well-cultivated and well-balanced brain do much to produce a sound mind in a sound body. In proof of the principle here contended for, Dr Caldwell refers to the history of the fifty-six delegates who signed the American Declaration of Independence; all of them were men of well-cultivated and well-balanced minds. Of these, two died of casualties in the prime of manhood; the aggregate of the years of the other fifty-four was 3609, giving to each an average of 66 years and nine months,—an illustrious example of well-cultivated and regulated brains in conferring longevity upon those who possess them. Several of these delegates lived beyond their 80th, and some of them to their 90th year.*

I have advisedly in this volume omitted to refer to what may be conceived an important section of the subject under consideration. I allude to the *moral* treatment of various types of insanity. With regard to the special duties devolving upon those legally entrusted with the medical, mental, and social management of the insane, I would observe, how noble is the study in which they are engaged, how important the duties that devolve upon them, how solemnly responsible is their position! Is it possible to exaggerate or over-estimate their influence, importance, usefulness, and dignity? What profound and accurate knowledge is required of the mind in its normal state before the physician is fitted successfully to investigate, unravel, and treat remedially its deviations from a healthy standard! How intimate must be his acquaintance with the phenomena of thought, and operation of the passions; how exact his notions of the instinctive and perceptive

* Treatise on Education.

faculties, before he is fully qualified to appreciate subtle, morbid psychical conditions!

"Great powers of reason are requisite," says Vogel, "to understand men destitute of reason." To treat the various phases of disordered mind with any hope of a successful issue, requires, on the part of a psychological physician, qualities of mind rarely seen in combination—tact, presence of mind, judgment, a ready appreciation of intricate morbid mental phenomena, a delicacy of taste, a high *morale*, a steadiness of purpose, elevation of character, great command of temper, and volitional power combined with a resolute determination not to allow any amount of provocation to interfere with that calmness and serenity so indispensably necessary on the part of those brought into immediate association with the insane. If the mind be the instrument on which the physician operates in carrying out any systematic plan of moral treatment, if it be his duty to perseveringly "combat with delusions and hallucinations, and to substitute for them correct and healthy impressions, to strengthen these by judicious and repeated repetitions, remove perverted trains of reasoning, replace them by correct induction, and give them the power and influence of habit and frequent association," how, I ask, can he make any progress in his treatment as long as he is ignorant of the *material* with which he is to work? If the man who has the advantage of an ordinary medical education is, on account of his ignorance of the philosophy of mind, obviously unfitted for the serious duties of treating its disorders scientifically and successfully, what language can convey our impression of the folly, the barbarity, and heartlessness of entrusting the management of the insane to those who are not members of the profession at all, and who have enjoyed no more psychological or general education than that derived from their having acted as attendants in

asylums, or that which they have received at a village school? Need we feel surprise at the little advancement made in the science of cerebral pathology, and the amount of public odium which has for so many years attached to those specially engaged in this anxious and important branch of practice, when we consider to whose care this class in years past was confided? I trust, however, the day is not very remote when the psychological physician, engaged in the treatment of insanity will take his proper and legitimate position in the ranks of honourable and scientific men, and the opprobrious epithet with which the vulgar and illiterate assail him will be expunged from the vocabulary. When that epoch arrives, the public and the profession will esteem, respect, and venerate those who, at great and heroic personal sacrifices (often of health, life, and reason), devote their acquirements, energies, and talents for the benefit of this section of the afflicted family of man. "I am at length rewarded," says Muller,* "since, after twenty-six years' intercourse with the insane, I have not become insane myself." In a letter to Pinel, it is observed—"The labourer in lead-works is thankful if he escapes lameness, and the medical attendant of a madhouse if he does not there leave his reason. A more deliberate sacrifice to the mightiest good of mankind is not conceivable."†

The physician should entertain right notions of his duty and position, and encourage elevated, lofty, and grand conceptions of his honourable vocation. He should impress repeatedly, earnestly, and solemnly upon his own as well as upon the minds of all engaged in the same holy work, the fact that they are conjointly occupied in the study and treatment of a class of diseases affecting the very source,

* Physician to the Julius Hospital, Wurzburg.

† "Aspects of Medical Life," by Dr Mackness.

spring, and fountain of that principle which in its healthy operations alone can bring man into remote proximity to DEITY—that the physician has to deal with the spiritual part of man's complex nature, with that which elevates him in the scale of created excellences, and places him high on the pedestal among the great, good, and the wise. But his functions expand in interest, gravity, grandeur, and importance as he reflects that it is HUMAN MIND prostrated, perverted and often crushed by disease with which he has to deal,—that he has placed under his care a class of the afflicted human family reduced by the inscrutable decrees of Providence to the most humiliating and helpless position to which a rational being can fall,—that it is his duty to witness the melancholy wreck of great and noble minds, and to sigh over the decay of exalted genius.

Like the historian and antiquarian wandering with a sad heart over ground made classical and memorable in the story of great men, and in the annals of heroic deeds, surveying with painful interest the ruins of ancient temples, viewing with vivid emotion the sad wreck of proud imperial cities, consecrated by the genius of men renowned in the world's history as statesmen, scholars, artists, philosophers, and poets, so it is the duty of the mental physician to wander through the ruins of still greater temples than any raised in ancient days to the honour of imaginary DEITIES. It is his distressing province to witness great and good intellects, proud and elevated understandings levelled to the earth, and there crumbling, like dust in the balance, under the crushing influence of disease.

Survey that old man crouched in the corner of the room, with his face buried in his hands. He is indifferent to all that is passing around him; he heeds not the voice of man nor woman; he delights not in the carolling of birds nor in the sweet music of the rippling brooks. The

gentle wind of heaven, playing its sweetest melody as it rushes through the greenwood, awakens in his mind no consciousness of nature's charms. Speak to him in terms of endearment and affection; bring before him the glowing and impassioned images of the past. He elevates himself, gazes listlessly and mechanically at you, "makes no sign," and, dropping his poor head, buries it in his bosom, and sinks into his former state of moody melancholy abstraction. This man's oratory charmed the senate; the magic of his eloquence held thousands in a state of breathless admiration; his influence was commanding, his sagacity eminently acute, and his judgment profound. View him as he is fallen from his high and honourable estate.

Listen to the sweet and gentle voice of yonder woman, upon whose head scarcely eighteen summer suns have shed their genial warmth and influence. How merrily she dances over the green sward; how touchingly she warbles in her delirium sweet snatches of song! What a pitiful spectacle she presents of a noble mind lying in beautiful fragments before us! Look! she has decked herself with a spring garland. Now she holds herself perfectly erect, and walks with queenly majesty. Approach and accost her. She exclaims, "Yes, he will come; he promised to be here; where are the guests? where is the ring? where my wedding robe—my orange-blossoms?" Suddenly her mind is overshadowed; her face assumes an expression of deep, choking, and bitter anguish—she alternately sobs and laughs, is gay and sad, cheerful and melancholy—

> "Thought and affliction, passion, hell itself,
> She turns to favour and to prettiness."

Speak again to her, and another change takes place in the spirit of her dream. Like her sad prototype, Ophelia, the

purest creation of Shakspeare's immortal genius, she plaintively sings—

"He is dead and gone, lady,
He is dead and gone;
At his head a green grass turf,
At his heels a stone."

Her history is soon told. Deep and absorbing passion, elevated hopes, bright, sunny, and fanciful dreams of the future—DEATH with all its factitious trappings, sad and solemn mockery of woe—seared affections, a broken heart, and a disordered brain.

The two illustrations I have cited are truthful outlines of a type of lunacy that frequently comes under the notice of those engaged in the treatment of the insane. How keenly such cases tear the heartstrings asunder, and call into active operation all the loving sympathies of man's noble nature!

The physician cannot too frequently allow his mind to dwell upon the peculiar state of those reduced by insanity to a condition of utter and childish helplessness. In other classes of disease, in which the psychical functions of the brain remain intact, the invalid, even while suffering the most acute and agonising pain, bodily distress, and physical prostration, is in a state to appreciate his actual relations with those around him, he feels sensitively the exhibition of tender sympathy, he properly estimates the care and attention bestowed upon his case, and recognises the skill of his faithful medical adviser. Alas! how different are the feelings and thoughts of many of the insane! In this class of affections the kindness, sympathy, skill, unremitting assiduity, and attention of the physician are often not outwardly or manifestly appreciated. He has, in many cases, to pursue his holy work without the exhibition of the slightest apparent consciousness, on the part of the patient, of his efforts to assuage his anguish and mitigate

his condition of mental disease and bodily suffering. Nevertheless, it is his sacred duty, even when, as is occasionally the case, his actions are greatly misconstrued and perverted by those to whose relief he is administering, to unflaggingly persevere in his efforts to carry out a curative process of treatment. The poor, unhappy invalid may believe that his physician is acting the part of a bitter foe. This ought not to excite any feeling but that of the most profound love and sympathy. If the patient's language be offensive and repulsive—if he be guilty of any acts of violence towards those in attendance upon him, the physician should never for a moment lose sight of the fact, that the unhappy affliction has, to a degree, destroyed his free will, and that, for a time, he has ceased to be a responsible being. It would be cruel, while such a condition of mind exists, to treat the patient otherwise than as a person deprived by disease of the power of complete self-government and moral control. Let me earnestly and affectionately urge upon all engaged in the treatment of the insane, the importance of never losing sight of the fact, that even in the worst types of mental disease there are some salient and bright spots upon which they may act, and against which may be directed valuable curative agents—

> "There is some soul of goodness in things evil,
> Would men observingly distil it out."

The more formidable, apparently hopeless and incurable types of mental derangement admit, if not of cure, at least of considerable alleviation and mitigation. It is always in our power to materially add to the physical and social comforts of even the worst class of insane patients. We undoubtedly possess the means of modifying (if we cannot entirely re-establish the mental equilibrium) the more unfavourable and distressing forms of insanity, rendering the

violent and turbulent tractable and amenable to discipline, the dangerous harmless, the noisy quiet, the dirty cleanly in their habits, and the melancholy to an extent cheerful and happy. It is possible, by a careful study of the bodily and mental idiosyncrasies of each individual case, and an unremitting attention to dietetic and hygienic regimen, as well as by a persevering, unflagging, and assiduous administration of physical and moral remedies for their relief, to

> "Pluck from the memory a rooted sorrow."

The spirit of love, tender sympathy, Christian benevolence, unwearying kindness, and warm affection, should influence every thought, look, and action of the physician engaged in the holy, honourable, sacred, and responsible treatment of the insane, it being his special province to

> "Fetter strong madness in a silken thread,
> Charm ache with air, and agony with words."

APPENDIX.

AUTOBIOGRAPHY OF THE INSANE.

THE following deeply interesting autobiographical sketches * written by patients after recovering from attacks of insanity, were embodied in the text of the previous editions of this work. They are now published in the form of an appendix. As admirable illustrations of the phenomena of mental derangement, described by persons who have passed through the distressing ordeal of insanity, they constitute data of the deepest interest to the psychological inquirer, as well as to all engaged in unravelling the phenomena of the human mind.

"Should I undertake to describe to you the anguish which I suffered before, and for several weeks after I became your patient, my language would fall so far short that I should convey no idea of it; but in our hall I found those that were under the same delusions that I was. One would say her children were murdered, and she had eaten them. Another would say she was to be burned alive, and she was brought there to be boiled, and the doctors were to make an anatomy of her, &c. All these, together with hundreds more of the most horrid delusions that can possibly enter the imagination of the crazed brain, had haunted me for months. My brother, my husband, and even my own son, a child of ten years, I was afraid of. I thought everybody on earth knew my thoughts, and that I was not a human being; that I was the devil, and that I ought to kill myself and children. I once told my husband I would kill my boy, for he had already been murdered, and *he* was only the ghost of my child. The poor boy cried, and came to me, and said, 'Yes, mother, I am your boy;' so I could not do it then; but myself I was fully determined to murder, before I got to the asylum; for I believed the people of ——— had called a meeting on

* Addressed to Dr Awl, physician to an American lunatic asylum.

my account, and had resolved to send me to Columbus to be burned, and made an anatomy of; but when I found others in the asylum who seemed to suffer in a degree the same fears and torments as myself, I was led to try to think I might be wrong in some things, until gradually reason returned—and with it the affections of the heart."

After recovery this lady says :—

"I arrived safe home, and found my children and friends well, and not a little astonished to see me so soon—and so well, too; I could scarcely make them know me. Before I left them, and since last February, I scarcely ever spoke to any one of them, and they seemed surprised to hear me tell how much I suffered; and they wonder when I try to convey to them some faint idea of the many awful and horrid delusions I was under. What a dreadful thing it is to have had my children afraid of me! Now they are so happy, and say to the neighbours, 'My mother has come home, and she is not crazy at all.'"

Another patient writes :—

"In the fall of 1839 I was much exposed, and laboured exceedingly hard, which brought on an attack of fever that seemed to spend its force principally in my head. I also had a severe cough, and at one time spit blood. As the fever increased, I experienced a kind of stupor and derangement of mind. In this state I had the most singular dreams or visions of things. One peculiar thought that entered my mind was, that my body was divided into four parts, the legs being cut off at the knees, and my head and breast severed from the body, which appeared to be real and true; and I suffered great anxiety as to how the parts of my body should be re-united, and made to grow together again. A physician was employed, and he ordered plasters to be applied to my ankles and a blister to my breast, and one on the top of my head, and gave me several emetics; and the pain of all these, and the distress of the fever in my head, was enough to render the strongest man, with the best constitution in the world, senseless and delirious.

"I continued in this condition some time, sometimes pretty sensible and others indifferent to what presented itself before me. At length, through the advice of some friends, I believe I was taken to the asylum. As near as I can recollect, I was taken twice. The first time there was no room for me, and my father had to take me home again. I remember on my first visit seeing the four round pillars in front of the building, and walking up the steps into your room. At this time I entertained the opinion of having just landed in the city of Rome; and from the circumstance of noticing these pillars, and the immense size of the building, I was induced to entertain the belief of

its being a house used by the Roman Catholics for their religious services. I thought it was a monastery. I also thought the piece of ground in front of the building was holy and consecrated ground, used by them for the interment of the dead. I suppose the reason why I thought so was, because the ground between the gate and the house had been fresh ploughed, and it looked yellow. I had an idea that the Romans, and some other denominations, were exercising their authority upon young and old; and I thought I was brought here to be scourged, and taken through purgatory. After I arrived the second time, I thought that the building was used for a medical college, and the inmates were going through a certain preparation or process of experiments, rendering them fit subjects for dissection, and investigation. After that, I concluded it was a kind of fort for the protection of the people of the country, for I expected that France had united with the southern parts of the United States, and we were suffering the unpleasant consequences of a war. These, and a great many other curious and singular notions, not necessary to mention, I entertained through the winter and spring, and until I began to get better."

"I was born," writes another patient, "in the State of Maryland, and am forty-four years of age. From my earliest recollection I was of a quiet and steady turn of mind, and have seen nothing but hardship and trouble all my days. I was married in my twenty-fourth year, in opposition to the will of my parents, but was devotedly attached to the man of my choice. He received an injury in his shoulder some time after our marriage, and I was in the habit of assisting him with his work on the farm. I worked uncommonly hard at making fence, burning brush, and clearing up the land. The stooping, heat of the sun, and hot fires of the burning brush, appeared to affect my head very much. On a certain day, while engaged in the field, I was suddenly struck almost blind, and felt an uncommon stiffness in the back of my neck, accompanied with a drawing down of the skin over my eyes and forehead, and the sensation of tight cords passing through my head. It was some time before I felt able to return to the house, and attend to my domestic duties. I had lost much sleep for two or three weeks previous to this attack, and felt troubled in my mind on account of our difficulties in getting along in the world. On the following night I was greatly distressed, and thought somebody was coming to kill me. I could not go to sleep, and by morning I believe I was completely deranged. I continued out of my head for three or four months, and suffered much distress and anxiety of mind from the apprehension that I was to be killed; but through the attention of the physicians and kindness of my hus-

band, I began to recover by degrees, and eventually got entirely well.

"After I got well we concluded to come out to the State of Ohio. We were very poor, and the journey was accomplished on foot. It was in March, and the three children and myself suffered greatly from cold and fatigue. Husband had taken to drink, and we had hard work to get along; and in the month of November following I had another attack of derangement. I forgot to tell you that my health began to fail previous to my first attack, and I think this brought on the second attack also. I continued ill for several months, during which time we removed to the north-west part of the State. I did not know what was to become of me; my distress was so great, that I longed to make my escape, and hide where no mortal could find me. We again had to make our journey on foot, and I cried and fretted most of the road. I wished I never had been born, and often said to my husband, 'There's my poor children, and I've got to go to hell for having them;' he would scold me for talking so, but I could not help it, such dreadful thoughts would come into my head in spite of all I could do. I sometimes tried to drive it out of my head by beating it against the fence. Frequently it appeared to my mind as if it would rain hail and fire upon my head, and I should be beaten to pieces with thunder and lightning; and when I did, once in a great while, fall into a troubled sleep, I would suddenly start up in a fright, with my hands before my face, to keep the awful danger off. It was all, however, respecting myself and my children; I did not think that anything was to happen to their father.

"At this time husband was sometimes a little crabbed, but he could not get any liquor in them parts, and did not get drunk. I was as much attached to him as ever, for he was a kind and good man to me. I don't think two persons could be fonder of each other. At last, however, I took it into my poor head that *he* was going to kill me. This painful idea continued to torment my mind for two or three weeks. It was dreadful. We had lived together so many years, and why should he want to kill poor me?

"One Sunday I was full of this idea the whole morning, and about twelve o'clock ran off on to the wild prairie, where I wandered about during the whole afternoon, and did not think of returning until near night. I met husband coming after me, with one of the children, and we all returned to the house together. I got the supper, and the family went to bed as usual. I could not sleep. It was a terrible night to me. About daybreak I got up and built a fire. Something appeared to tell me there was dreadful work to be done. I was very

much agitated when the thought came into my head that I must kill him; but my mind was so much excited I cannot tell anybody exactly how I felt. The same thought came into my head in the night, but I succeeded in putting it down. I had a confused notion that I was born to be lost; it appeared like a hidden mystery; but the thought that I was born to be lost was uppermost. At the same time I supposed he would be saved. I often thought that everybody was made righteous beside myself.

"I stood alone by the fire. All were sound asleep. Husband partly wakened when I first got out of bed; he merely opened his eyes, and then went to sleep again immediately. I knew he was sound asleep, and I felt that I must kill him to save myself. I accordingly went to where the children lay, and drew out a broad axe from under their bed that he had borrowed from a neighbour. I went right to his bed, with the axe in my hand, trembling like a leaf. He was lying on his right side, with his neck bare, and I immediately struck him the one fatal lick across his neck. He kind o' struggled, and partly raised himself to his knees, and wakened the children, a-dying. My daughter came running to me in a fright, and took the axe out of my hands, screaming that I had murdered father, and sprang to him and kissed him on his forehead, crying—'Oh! he's my poor, poor father.'

"As quick as they could get their clothes on, the children ran off to the neighbours. I sat down, and stayed in the house alone until the neighbours came. A gentleman first looked in at the door, and asked me what I had done. I said (*evasively*) that I had not done anything; that I had to go to hell, and that I would have something to go there for. He came in, and said he must tie me. I told him I did not want to run away, and would go along with him without tying. He first took me to the next house, and in three days they sent me to jail. I was as distracted as ever; and what I had done gave me no relief nor satisfaction. I think it was as much as three months before I began to come to myself. I was not tried for the murder, which I never attempted to deny, but sent here to the lunatic asylum. I supposed they would hang me, and did not expect anything else for a long time. My mind now appears to be entirely clear, and I want to go home to my children. I feel much better, though very weak. I am thankful they brought me here. My mind is altered now about going to hell; I have hopes, and think when I die I will go to rest. I like to go to your evening worship very much, when I am able to walk upstairs, &c.

"To our question, 'Well, Mrs S., you say your mind is now clear; don't you know it was wrong for you to kill your husband?' 'Yes, doctor, I know it was wrong.' 'And are you sorry that you did it?'—

This question appeared to touch the very chord that had been so long diseased. Her eyes flashed; the pupils contracted; and her whole frame shook, as she raised herself up, and emphatically replied—'No, doctor, no, I am not sorry for it. It was God's will—why should I be sorry? He made me do it to show me His power—and I was willing to do something to go to hell for.' It was but the flash of a moment, and all was calm as before."*

I append another interesting account of the operations of the mind during an attack of insanity, written by a lady after her recovery.† This patient possessed great accomplishments. Her imagination was active, and her character was most marked in its disposition to conceive projects and abandon them as soon as formed. Her insanity is said to have resulted from a misunderstanding that arose at a moment when she was already the victim of disappointed hopes. The conjunction of these circumstances became the exciting cause of her mental affliction. She had in Holland claims to a large sum of money, but the date of her right was at a remote period, while another family, and with all the appearance of justice, had made good their titles to the same possession. Advantageous offers, and the expectation of succeeding, by being present on the ground, urged her to proceed to Holland. After many useless plans, and after having seen all her efforts fail, she returned one day home with her feet very damp. The succeeding day she felt out of order, suffering much from cold feet, and pains of the head and throat. Instead of reposing in her bed, and promoting perspiration to recover her health, she sat at her desk to arrange a very long paper on her business, to which she devoted all her mind and means so as to prove the justice of her claims. But notwithstanding the paper was written with great power, and she had presented the subject under every variety of aspect, it had no better success than the preceding memoirs. No answer was made to it; and when she called on the people to whom it had been transmitted, they always contrived to escape seeing her. Impatient, soured, and irritated at this cruel treatment, she had determined to return home, and had proposed leaving her lodgings, when she received a letter from her family, which induced her to protract her stay some time longer in Holland. The memorial mentioned was the chief subject which engaged the disordered mind of this lady during the illness she had at that period. The written detail which she gave of her feelings during her attack is as follows. Some few points in her history have been suppressed.

"During these transactions, I hired more retired apartments, and less dear. My landlord, a shoemaker, and all his family were worthy people,

* The American Journal of Insanity. † Annales d'Hygiène.

and obliging. I took them for Christians, though they were Portuguese Jews. When I was informed of that circumstance I became painfully affected. I began to be under constant apprehension that they would rob me of my money. This fear increased to such an extent as to deprive me of my rest. At last I fancied that my host might some day make me swallow a narcotic draught, and assassinate me, along with my daughter, during the night to get possession of my money. My suspicions received additional confirmation from the circumstance that these persons had prevailed on me to inscribe my name at the police-office as Madame H. A., and not Madame H. B. Tortured by fear, for the period of eight days I scarce slept for a few instants. My food was composed of eggs, fruits, and tea, and one day, after having partaken of some bread which my landlord brought me, I was immediately attacked by a severe diarrhœa, and I had no more rest.

"My hostess explained the accident by a statement that the police, in order to prevent an epidemic with which the conntry was threatened, had directed the bakers to introduce into the bread, designed for the lower orders, medicines which would act as a general purge.

"My body and my head broke down, weakened by the low diet and by the continual watching. Fear carried them away. I felt my judgment going apace along with the power of reflection; and at last I was unable to draw from any given fact conclusions in accordance with the relations of that fact. The persons around me became still more fully suspected by me; and the end was, the loss of my reason.

"Two dreams, one of my daughter, the other about myself, occurring in the same night, brought my disease fully out. My daughter told me that she had witnessed me throwing myself into the street from the third flat of a house in the town, and that I remained stretched on the pavement, broken in pieces and dead. We went to try and discover the house which she had seen in her dream; it was the Court of Judicature. As for my dream, it was, that a man bearing a purse had entered the house of the Portuguese Jew and had cut my throat. The day after, I was busy washing some clothes, when, raising my eyes, I saw (and I was wide awake) a long knife passing over the ceiling of my room. Struck with alarm, I bade my daughter to be silent. In great haste I placed all my money in my work-bag, I closed my trunk, and hurried my daughter into the street, taking with me all most important papers. I cannot say whether some person had not, by way of joke, passed a knife through a slit in the ceiling, or whether it was not altogether a vision, the creation of my excited imagination. This, however, is undoubted, that I was quite awake, and in full possession of all my wits, when I saw the instrument of death. I had met shortly

before, in descending the staircase, a man with a large purse under his arm, probably a barber. The appearance of that man deprived me of my self-possession; and once out of the Jew's house, reason completely deserted me. I then went to one of the body-guard. I addressed a young officer, and begged him with fervour to carry immediately to the king the packet of letters on me; but as he hesitated, and left me under the pretext of calling a superior officer, I hastened away from him and went to the German Chancery, where I compelled the worthy keeper of the records, M. Z., to take my packet and preserve it for me. I also told him of my cause for alarm, and made him acquainted with the danger I dreaded. He took leave of me after having offered some commonplace consolations, and I found myself again in the street. Here, however, everything was changed as far as regarded me. The city, so tranquil but a moment ago, was in the height of an insurrection. The regiment quartered in the garrison was Jewish. The prince royal and the king had been made prisoners and condemned to death. The enemy had broken ground at Schevelingen. The Asiatic hordes were commanded by the Jews. Of what use could the gold be to me? I said to myself, and I returned to my landlord's door. I called his wife. I threw my money down on the work-table, advising her to begin a petty trade with it, and I concluded by a humble request for one louis that I might return to Germany.

"The face of the poor Jewess must have actually been seen at the instant when she received so unexpectedly a large gift, to conceive the astonishing effect it had on her countenance—it actually became purple. She could not divine how to explain the matter; but she concluded in offering me a piece of gold, and would have allowed me to go away without any further remark had not her husband come in. He took a handful of the louis and slipped them, almost without my consciousness, into my bag. The louis, however, were restored, from which cause I was led to believe the family highly honourable. Having in this manner, as I supposed, got rid of my money, my dread of being assassinated vanished, and I reasoned with tolerable precision for an insane person. I said to myself, the people would have killed you on account of your money; let them have it; they will countermand the assassin, and you may return home without any fear. I made this all clear to my daughter, and I took the road to Delft. I wished to pass the night in that town and travel by the boat to Rotterdam, whence I would have proceeded to Munster by Arnheim and Emerich. I was desirous to see Madame H. at Munster, and explain to her that it was a sacred duty she owed to her husband to recall him immediately from Holland, as he ran the hazard of being branded, as one indi-

vidual had already experienced, who had put in his claims for a property.

"I had changed my louis at the banker L.'s, and I was already close by the gate of the city, when I saw a young Jewess following me; and though I had made different turns to avoid her, she nevertheless hung close on my footsteps. I then went up to her, and exclaimed, in a menacing tone, 'Accursed pagans; you have already crucified Christ, and this day you vent your wrath on the prince royal.' The Jewess saved herself from this dreadful apostrophe, and from that moment I was fully satisfied that the prince, who was universally beloved, was in imminent danger. I then came in contact with an enclosed palisade. I asked what was the purpose of it. Being answered that it belonged to a Jew, I persuaded myself that it was the prison of the royal family. The absurd thought excited so much pain and sympathy in my heart, that I deserted my daughter, and desired with my nails, using all my force, to make an aperture in the enclosure, that I might save the prince, and bring him out along with me. Nothing could withdraw that fixed idea from my mind, which led me to the belief of war.

"This idea was further substantiated by two new visions, which existed nowhere but in my disordered brain. I saw then on the canal a little boat, with black sails and colours. My eldest daughter, whom I had left at C., had taken refuge there, and was miserably clad. The boat, however, could not move, as the King of the Jews, under the penalty of death, had forbid any of the boatmen weighing anchor. That I might not betray her, and let her understand that she was my daughter, I returned silently; and soon after I recognised the face of a young lady of H., in full dress, coming out of a beautiful coach, and proceeding to an adjoining house. I followed this lady to address her, but those whom I spoke to said that they had seen no one. In all haste, I then took the road to Delft, where I arrived at eight o'clock in the evening. I looked out for a respectable house for lodgings, but they would receive me nowhere. Finally, I was received into the house of Captain B., whose lady was sick, and confined to bed. Nevertheless, the people of the house showed a great interest for me, and treated me with great kindness and humanity. A new accession of fever came on, and a host of visions, more or less fantastical, all relating to the imprisonment of the prince royal, excited a furious delirium of the most extravagant nature, in consequence of which the persons with whom I resided carried me, in the course of the night, to another house. On the subsequent day, a letter was dispatched to the keeper of the records, M. Z.: he came to me in a

closed carriage, and took me to an establishment at a distance from the street, where I was put under the care of an old servant of M. H. A physician was called in, and at the expiration of three weeks I was so far recovered, that my guardians no longer could trace my thoughts, though my ideas still clung to the same subject.

"After having left the house of M. B., at Delft, I fell into a state of profound melancholy. I fancied myself to be in positions which only the extreme of madness can conceive. My recollections are by no means very clear of what occurred when we were at the hotel, where we had to pass three days; still, I have a floating idea of having conversed with different people, and that I answered different questions. I think, also, that when I went to bed, a great many people came to observe me, and they talked together about my condition, but all the rest was a dream.

"The condition, however, in which I spent the first night seems worthy of attention. I thought myself a-bed, perfectly conscious, but totally unable to make any movement, in an immense abyss, in which I believed I had been buried alive, and had now awakened in the tomb, in the condition I was to live for all eternity, with the perfect consciousness of my condition, to reflect on myself. My mind, which, when awake a few hours previously, had been carried away by the most extravagant frenzy, still enjoyed all its perceptions clear. I discussed with myself whether I deserved so stern a fate, and as I was unconscious of any crime done with premeditation, I concluded by supposing that this severity of punishment had been awarded to me because, though I had fulfilled my duties as much as lay in my power, I had yet neglected to do any good beyond my line of duty, &c. In other respects I was in the same condition as a person affected with tetanus.

"I recovered myself, however, though I was in a state of extreme debility, not having sufficient strength almost to support the weight of my body. Scarcely was I awake ere I relapsed into my illusions. I began to scrutinise my room, that I might discover whether I had not fallen into the house of a merchant of souls. The burlesque motions with which I prosecuted this search would undoubtedly have provoked a smile in the most serious person, and at last I went into the chimney, reasoning thus with myself, that as it was made of stones, it could not be thrown down when the house was demolished. My fears were further augmented by the pictures which ornamented the walls. In that posture I waited in trepidation the approach of the inmates of the house. A young girl appeared, who gave me some confidence, but when I saw my old landlady enter, my emotion could not be con-

cealed; and lastly, when two keepers were brought into the room, who were not to leave me, my wrath was fired anew, and I broke a window that I might escape.

"After some time I was permitted to go to the garden; the open air soothed me, and yet everything around me was a source of illusion to me. The houses around the garden seemed to me to be prisons filled with prisoners. I fancied the kitchen of my landlady, in which a large pot was boiling, the place where the prisoners were put to the torture. The water of the pot in which they were going to throw me, I thought was boiling oil. Full of that notion, I tore the sleeve off my daughter's robe, desirous to retain it that she might not incur the hazard of being boiled alive.

"All this receives its explanation in the condition of a phrenetic lunatic, all whose actions are influenced by so many dreadful fancies; so it is always with me, that it is impossible to alleviate even a little those agonies except I am completely enlarged from them. For if I had been shut up on that day, or even bound down by chains, either fright would have stopped the flow of the blood in my veins, or it would have circulated with such intense rapidity, that with undoubted certainty all the arteries would have burst in my brain. Most luckily I was left in the garden, though a violent storm was approaching. I felt myself very well when my keepers were forced to retire by the rain under the protection of the alley of the house, leaving me at full liberty to contemplate the rising storm. But how differeut was that storm from that I had seen before and those I have witnessed since. The clouds which rolled up from the horizon appeared to me to be the billows of the deep rising o'er the banks of the Schevelingen to the skies, fighting in the air together over my head; while a flotilla of the enemy on the margin of the river carried on a deadly combat against the inhabitants. The last hour had struck for the prosperity of Holland. I did not hear any thunder—I did not witness any lightning; but I perceived the explosion of a hundred blazes of fire, the cannonade, ceaseless, reverberated in my ears, from which we may infer with all certainty that the ear and the eye of the insane amplify and enlarge whatever is heard or seen.

"The same remark occurred to me afterwards. As my symptoms appeared better my linen and my property were restored to me. I took them out of my trunk and arranged them on my table. I was struck with their great number, and even with the appearance of a cloth and towels, which, however, I had left behind at C. But this joy did not continue long, and when the following day I again examined my linen, a great many objects appeared to be wanting

which I had fancied to have had in my hands the previous evening ; so much so, that I supposed I had been robbed. I did not, however, communicate my suspicions to any one.

" These two circumstances justify me in affirming that the lunatic fancies he sees and hears objects which have no real existence. But what I am now going to mention proves the important influence of an individual opportunely seen in giving a proper degree of assurance to the sick person ; for the earliest symptoms of my recovery take their date from the day when I saw, amongst a great many others, a form that particularly caught my attention.

" I cannot well say whether it was the second or third day several persons came to talk with me in the garden, but I was extremely insolent to every one, even to Captain B., to whom I owe my life. At the end two men opened the gate and looked on my side of the garden. One was dressed in a deep blue overcoat, and he almost immediately withdrew ; the other was dressed in very beautiful uniform ; he also retired. After that a young man of a very good expression entered, having all the outward appearances of perfect health ; he spoke to me in French, and I answered him in the same language. I took this person for the prince-royal, and the bandage fell from my eyes. I felt myself all of a sudden in great confusion for appearing before the prince in a *costume* so unsuited for the occasion. I was surprised that he was still alive, and as he appeared in perfect health, the anxieties I had experienced on his account, conceiving that the enemy which had beleaguered the country had made him suffer great torment, all vanished in a moment. I felt myself as if inspired with a new life, and from that hour the visions of horror were no more.

It will be easily understood that this young person was not the prince, though he was a little like him. What an infinity of good would be conferred on the lunatic could his thoughts be anticipated, and scenes of a nature to affect him favourably be brought before him. Had permission been given me to leave that day, I assuredly would have committed nothing either that was ridiculous or attended with injury to any one. But there were still more cruel trials in reserve for me, from which I was not to escape until I had gone through the ordeal of three additional days' illness.

" A coach was ordered, in which M. Z., the keeper of the records, conveyed me to La Haye, where I was placed in a house near the castle. I then had a difference with M. Z., as we did not leave the town by the same gate we had entered. I attempted to show him that he had mistaken the road, and I felt much offended in perceiving that he, with a smile on his lips, continued the same route without paying

any attention to my observations. When we stopped this irritation was further increased on perceiving a child looking at us. I said to it that it deserved the rod, which caused it to run away. As I ascended the stairs I counted the steps, and I was again thrown into distress on getting to my room, when I saw that the door could not be locked from within.

"My alarm, however, became extreme, when I firmly believed that I thought I recognised in the person of my nurse an individual whom I had seen hanged some time before at La Haye, along with another criminal, and whom accordingly I took for a spirit. In the solitude of night I perceive myself alone in company with this person, full of the most agonising apprehensions. I would not allow the shutters to be closed at nightfall; and as, when I thought I had seen the prince, I had no longer any dread of war, I was fully persuaded that our soldiers had been victorious, so this idea stirred up in my breast the fears of being assassinated. When the pump was worked in the yard I fancied that they were going to throw the water into my room, and I looked every moment to see it rushing in. Noticing three nails in my room, I supposed that they intended to hang us on them—myself, my daughter, and my nurse—because the latter had been condemned to death.

"Resting on my couch one evening, but quite awake, I watched every step of the nurse with my eyes, as I thought her a spirit; the candle ran, but I did not observe the tallow flow from *that* candle, but from a hole in the wall, whence it was discharged in an enormous quantity, resembling a furious torrent which has burst through its banks, so that I screamed aloud, and pretended that they were going to suffocate me. The incident made me suspect that they had the intention to poison the atmosphere, and ever from that moment I constantly experienced a disagreeable though sweet smell. All the viands offered to me had that taste. I thought that the meat they brought was human flesh, and insisted on the idea that they desired to poison me. Since my complete restoration to health I have discovered, in one of my walks, a poisonous plant which had the disagreeable odour I allude to.

"The circumstance I have referred to, of the tallow running down the wall, is a convincing proof to me that persons labouring under disorder of the mental faculties perceive objects which have no real existence, and that the sight of particular matters produces, spontaneously, images in the eye of the diseased person.

"Even at a later period, when I was improving, I still saw Dr T.; then my brother-in-law; I heard the voice of my sister, as also another voice, which, speaking to me by name, bade me 'lay down the petition.'

"I often requested of my keepers to have my clothes, my papers,

and my money ; but they answered me that they were to be kept till my husband appeared, who ought to come and inquire for me. On several occasions I objected to this arrangement (pleading the expense it would be attended with) to interest the persons who detained me to permit me to travel alone ; this, however, they would not accede to, though I had become much more calm. Several dreadful dreams broke in on this state of tranquillity, tallying, however, very appositely with my condition. There I was, in the realms of Pluto below, which I examined with a remarkable degree of firmness and self-possession. I saw, moreover, the *aqua tolena* prepared. I had read an account of this horrible torture, the frightful details of which were all reproduced in a dream, and my children were the unhappy victims of this barbarity of the Italiani. I would rather suffer in reality every kind of imaginable torture than again experience that horrible dream. On being awakened, I found that I had been dreaming, but still one uneasy idea succeeded another, and the last of the kind was on my return, after having been in a *diligence.*

" I converted the office in the house into a chamber where the torture was performed ; every time I heard a packet sealed I thought it was the *coup-de-grâce* of some unfortunate wretch. An old apartment, always closed, containing ancient records, and full of armories, was the charnel-house, and the armourer represented the coffins. I firmly believed that the story above me was a conservatory for the remains of those who had been assassinated, until one day, finding the door open, and all being still in the house, I went up quietly myself to ascertain how far my painful suspicions were well founded. Great, then, was my happiness when, instead of bones, skeletons, and carcases, I saw nothing but torn old waste paper. My curiosity was wound up to the highest pitch, and yet I had not courage to touch one of the leaves. I opened a window which looked into the royal garden ; the windows of the apartment of the king also commanded a view of the garden. I noticed at one of the windows a tall lady in white robes ; the moment I saw her she rose from her chair somewhat hastily, and I supposed she was the princess. From that moment all my fantastical notions were centred in that princess, as I thought she was detained as a prisoner in that room.

" I looked then by the windows in the front of the house where I was, and I noticed a range of buildings which surrounded the castle in the form of a circle. It would be interesting to ascertain whether, from the windows of that roof, the view which I describe here can be enjoyed in perfection, to determine whether my senses were not under the sway of an illusion, when I saw a crowd of magnificent mansions all around in that quarter. The front buildings could be perceived

from my bed-room. I saw distinctly a small earthen pipe, which passed by the chimney of the house nearest the court of the castle; and it was not a long mental operation for me to conclude that the tube of that pipe was the only mode of the air having access to the house. So I likewise inferred that all the individuals who entered the house would be suffocated.

"On the day of my husband arriving, and in his presence, my whole system underwent a special change. Instead of feeling a satisfaction that I had in him a protector, I was harassed by the idea of being considered insane by him, and being placed under the control of a person whom I distrusted. Under the influence of that fear I exercised all my self-control, that he might not suspect my insanity, though I was still far from being in full possession of my wits. I also adopted the precaution to procure secretly a strong dose of rhubarb. I swallowed it all at once, and felt myself much better after. I had done so formerly with benefit.

"Some days after the arrival of my husband we began our arrangements to return home. We secured places in the diligence, though we would have done better by hiring a carriage, as we had to pay for three seats. We were then fairly on our road, and the shocks and jolts of the wretched vehicle in which we travelled were of no small service in restoring my addled brain. I soon found that my reason was restored.

"We arrived for the night at a town beyond A., where we were to stay till the morning. We had a bed-room, but there was no lock to it. When my husband had undressed and gone to bed, I noticed that he had left his pantaloons near the door, which was ajar, and I was afraid lest he had left money in his pockets. I searched them, and found, to my great delight, thirty-two double louis, of those which I had taken with me; and, in addition, the sum of two hundred *reichsthaler*, in single louis. I immediately concealed the thirty-two double louis in my clothes, intending, if my husband did not adopt better arrangements for our journey, to start alone on foot, and manage the gold coins myself. This money, which I had worked hard for in my early life, and which I had recovered, imparted to me a new spirit, so that, from that instant, I felt that I had entered on a new life. My fears all vanished, and everything about me appeared under a new light. Desirous to give my husband some little annoyance, as a punishment for his want of prudence, I placed in his bed the money which belonged to him, retaining my own. The following morning his alarm was great when he found his pockets empty, though his pantaloons were on the chair he had put them on the previous evening. I comforted him, restoring to him the money, and told him that his manner

of travelling, though it was highly extravagant, was not the more pleasant on that account; that I would not contribute any more to the general expenses, but pay only for myself and my daughter. Notwithstanding my remonstrance, as he persisted in travelling by *diligence*, I left him in a village, and proceeded alone as far as the gates of Westphalia. I should undoubtedly have lost my way had it not been for an incident which has much the appearance of the marvellous.

"Arriving at a place where three roads cross, I was going to follow that which would have brought me back to the point whence I had started, when I noticed the tracks of a man who had probably conveyed corn to the town of Minden: a sack had burst, and a considerable amount of the corn had escaped. My head was still feeble, and I had an explanation ready for this adventure; I conjectured then, and very luckily this time, that this corn had been spread on the road to enable me to escape from the labyrinth in which I was involved. I followed the marks with perfect confidence, and, treading steadily on the corn, I passed over roads almost impracticable, and through several villages, getting finally into the high road, where I met the diligence, which, taking that route, had made a long circuit; there I joined my husband and my daughter.

"At Minden I took the arrangements for the continuance of our journey into my own hands, and hired a private carriage for ourselves. Notwithstanding this, the most trivial circumstance suggested erroneous fancies; but as I was in a state of perfect liberty, I examined very attentively the subjects which had awakened surprise in my breast, and I gradually became conscious of my errors. I still recollect several of these very singular visions.

"At the period of which I now speak I was in no way uneasy as to my own fate, or that of my family, but I was distressed by a feeling of sympathy for the Jews, discomfited, as I thought, in Holland, and scattered in the woods in the neighbourhood of C——, where they were perishing of hunger and cold, along with their wives and children. I daily resorted to the woods, and deposited bread and money, particularly near the cross-roads.

"Two regiments passing through the city at the same time, had a coffin in their escort; this circumstance affected me with alarm, for I thought that their king was in the coffin. To convince myself of the truth of the circumstance, I ran across the garden to meet the procession; but the body had disappeared, and afterwards I understood that the coffin was tenantless. I called a young soldier who was following the regiment at a distance; I made several questions to him on the subject, but he did not answer me, but went away without saying one word to a hillock covered with verdure and thorns; he there made a hole in

the midst of the thorns with his cane. He still declined answering me when I asked him whether a king had not been buried on one of the banks of the Rhine? I was soon, however, satisfied that the silent soldier was a spirit, which idea made me exceedingly uncomfortable.

"Fear, probably, and the stormy season to which I had been constantly exposed, again disturbed the harmony of my intellectual powers. From that day, as soon as I arrived in the country, I observed on the summit of all the mountains which circumscribe the horizon, machines which appeared to me to be telegraphs, and I fancied, at the conclusion, that the enemy, after having cut a canal, had beat back the Prussian army as far as the Rhine, driving it into the deep, and that they were anxious to preserve the vessels and the corpses of the parties so destroyed, as trophies of their victory. This idea excited in my mind a determined hatred against the barbarous men capable of so atrocious a deed; and to show that I could not be blamed for being a party to its execution, the strange notion came into my head to send some loaves and a bottle of brandy to several detachments of recruits on their route through the town; they took the brandy, and handed the loaves over to the poor."

The following is an account, written by a physician, of his own case. When deranged, he imagined himself to be pursued by a demon. He had also other delusions. He fancied himself transported from street to street, and his imagination was active enough to exhibit to him every moment some different public place in which his guards detained him on his bed. "I almost continually supplicated," says the writer, "to be only carried to my house in *Holy Ghost Street.*" The persons about the patient, in endeavouring to pacify him without complying with his wishes, only confirmed the delusion under which he laboured. Their cry was, "It shall be done in a few hours, or early to-morrow, as it is now night." He lay pining in vain for the end of these few hours, and during the time his fancy created places not the most agreeable for his residence. Sometimes it pitched him between two walls, so close that he could not heave an arm; sometimes on a burial-ground, sometimes on the court before the hospital he attended. All the arguments of his friends availed nothing to prove to him that he was really in his own room. When they pointed out to him his own books, close beside which he lay, or the prints that hung opposite, he took it for a trick. Sometimes he did not recognise them for his own; and sometimes he conceived they had been removed to his present place of abode.

It was observed that the sound of a horn transported him in imagination to a public place for music and dancing; the neighing of a horse in the street, to a stable; the bad odour of his own exhalations, to a burying-ground.

He was under a delusion that he was hated and deserted by the whole world, that all his friends had forsaken and his patients renounced him. The foundation of fact on which this superstructure of despondency was raised arose from his missing three of his most intimate friends who were absent or incapable of attending upon him. With this must be considered a natural mistrust he entertained towards mankind, which his friends told him they had observed when he was in health. The number of unpleasant things he experienced from those about him, such as their refusal to let him quit his bed, forcing him to take medicines, applying blisters, must have added force to his morbid impressions.

"My other fancies were," he observes, "probably those most common in every form of delirium. The flowers on my curtains and tester I took for men in continual movement. They all went towards the wall, and as there were none but my acquaintance, I often joined them. We found ourselves in large illuminated subterraneous chambers, where I learned such family secrets as every man in the world above keeps close locked up in the recesses of his bosom. Once, I really called my wife to my bedside and told her a shocking transaction involving two of our friends, which I had learned in these subterraneous assemblies. I related the story with so much consistency, and gave it such an air of probability as to make her take it for a real fact, which I must have known before my illness."

"From July 1847 to November of the same year," says the Rev. Mr Walford, when describing his attack of insanity, "I was highly nervous, and experienced a considerable loss of strength and flesh. I spoke sometimes so sharply to those around me as to startle them, and make them fear me. About this time (the beginning of the attack) I felt great anxiety for the eternal salvation of my employer. His brother was lying ill, and I begged that I might visit him, but my offer was refused. I therefore prayed earnestly for his recovery, and had the satisfaction of hearing next day that he was better. Strong hope, mingled with fear, now took possession of me. When at prayer, something would pull at my back, blow in my face, as if in derision, and, hovering round my mouth, try to snatch the words from my lips. At night, when in bed, I felt something press upon my chest, and awoke in great trepidation in the middle of the night, when I sometimes heard music at a distance. These impressions terrified me so much that I dreaded to lie down. Then again I was afraid of forfeiting God's confidence by committing some undefined sin that I could not resist. Therefore, I felt a strong inclination to leave the house of my benefactor, which desire was increased by my imagining that the persons in it would fall into apostasy. Hence I had recourse to prayer

with all my heart and all my power, and while praying I nearly fainted. It next occurred to me that my employer had become rich by unjust gains, and that he and his wife would be trodden down in the streets and trampled to death. One evening, while at prayer, I saw a circle descend slowly on my head, and afterwards told my wife that I was the anointed of the Lord, but she did not appear to understand my meaning. Felt that I was very ignorant of the Scriptures, but expected every day that the power of God would instruct me, and that I should be commanded to leave the house on a sudden : so I put all things in order for my departure. On the 9th of March I left ; but I was greatly agitated, and wept frequently, being unable to restrain my feelings. About this period I began to see objects like gnats floating before my eyes, and thought they were wicked spirits watching me ; however, I felt satisfied that I was anointed in a very high degree, and that my mission from the Holy Spirit was to walk incessantly about and convert the people I met with. As I passed near to them I believed the Holy Spirit transferred itself from me to them ; so I selected the most crowded thoroughfares in the metropolis for the work of conversion, and extended my walks daily, sometimes even into the adjoining counties ; and I thought the people often turned round and looked at me as I passed with great satisfaction, as if conscious of the blessing I had conferred on them. To see the crowds I had converted greatly encouraged me in my labours ; and now, delighted with my office, I had special revelations. One night, while in bed, I saw the glory of the moon. It was like a horizontal pillar across the moon, which increased in size and radiance as it approached my bed-room window. I now believed that I was to be a prince, and the high-prince, of our Saviour. Upon the approach of the morning I felt a burning flame around me, and conceived that it was the glory of God sanctifying me for the work I had to perform. My sensations frequently alarmed me. More than once I was afraid I should go mad, and then I alternately laughed and wept. One day I heard my feet speaking to me, telling me that I should be a king, and reign at Jerusalem ; and I also heard other voices telling me that I was Dan, the son of Jacob, and should have large possessions at Jerusalem. Thus, having left my home, I wandered over miles of ground, imagining that I was forbidden to sit down or stand still ; and, after having walked the whole night, one morning I arrived in Sion Lane, and was, by one of the cottagers, conducted to the house where I expected to find food and rest. The proprietor, I supposed, was a high churchman ; and I expected all the inhabitants would come while I was asleep and look at me, in order that they might be converted. During the first few weeks of my residence there, many strange fancies came across my brain ; with my

new companions and the medical gentleman I conversed freely, and gradually became quite conscious that I had been under delusions, which have happily passed away, and my mental health is now, I am grateful to believe, quite restored."

The following interesting account of the mind when in an insane condition is from the pen of a patient who was confined in the Gartnavel Royal Lunatic Àsylum, Glasgow—an institution under the kind and able medical snperintendence of Dr Alexander Mackintosh :—

"It is a fearful thing for a man to be mad and to be conscious that he is so. I am convinced that a thought of an intensely exciting nature, passing through a brain in this state, or through one very easily excited naturally, can kill as quickly as a shock of electricity from a thunder-cloud, and that the death-bearing messengers, in both cases, are nearly allied.

"I have, while recovering from an attack of mania, not once, but several times, been struck down as utterly senseless by a thought as I could have been by a blow. My father was a man in whom the organ of veneration must have been developed to a degree which many of our mercantile professors of religion now would consider amounting almost to insanity. In the midst of youth, health, and usefulness he fell dead from his chair, with a book in his hand. My mother kept that book, and held it sacred, as a memento of her irreparable loss. I was a young child then, but many years after, when I had learned, by fearful experience, the power of imagination, that book came into my hands, and I looked upon it then, as I do now, as the instrument which had left a family of infants fatherless. I have no doubt but some of those sudden deaths for which no cause can be assigned or seen, are the result of this silent thunder, which bursts from the imagination when in a state of excitement or disease.

"There is fearful danger in allowing the mind to dwell exclusively, or nearly so, upon any one subject; variety is absolutely necessary to keep the mind in health—to keep it from rising above or sinking below the level of calm, right-judging rationality. There are subjects which, if followed to excess, must rouse the spirit to madness; there are others which must sink it to apathy, or idiocy. There is a plain physical reason for this—if one portion of the brain be constantly acted upon, that portion gets either benumbed or inflamed. A young girl falls in love with a young man—her every faculty is absorbed in this first and fearful love, his image is branded upon her brain, and reflected in the crimson streamlet which flows from her warm heart; he dies or deserts her, and she goes mad. This is a common case. Every female ward in every lunatic asylum proclaims it, and tells also

that it is a form of the disease over which, in many cases, treatment has little control.

"For many years I was deeply impressed with the belief that I was possessed of talents of a high order for a particularly exciting department in science; and for the development of the fancied gift I threw my whole soul into the study. I nursed it till it became a mania. Working, eating, sleeping, it was ever there. The everlasting reflection of its fiery form inflamed my brain—every thought became agony, and I went mad. My spirit was impaled upon the instrument on which it had so sinfully leant,—hope fled, and in her place reigned that sleep-hating demon despair. Agony-driven, I hurried ceaselessly on through that room, till every foot-mark of my bruised and blistered feet could be traced in blood and water on the floor. Sleep, that oil, that priceless balm for the weary soul, had entirely departed, and my parched brain glowed like a furnace. Were any one to ask me how long I travelled upon these bruised and bleeding feet—how long my glaring eye-balls refused protection from lids that felt like fire, my answer would break his faith in my veracity for ever.

"I purpose to note down a few of my recollections concerning my thoughts and actions while under influence of the disease, in the hope that they may be useful to those whose business it is to watch over the insane, and a warning to those who, through ignorance or recklessness, abuse their minds, till the tortured spirit, like a fire-begirt scorpion, turns upon itself and stings.

"One night, after a number of weeks of fearful suffering, as I was lying upon the bed, tossing, sleepless and despairing, a most horrible impulse seized upon me, an impulse impelling me to destroy one who, of all living beings, most deserved my love. I buried myself under the bed-clothes, and struggled with the hellish impulse till the bed shook. It still gained strength. I sprung up, clung to the bed-post, and sunk my teeth, in the agony of despair, into the hard wood. It was uncontrollable. I shut my eyes, bowed down my head, for fear that I should see her, and rushed out of the house. Barefooted, with no covering save a night-shirt, I ran through the streets to the police-office, and implored them to lock me up. Fortunately the officer on duty was a humane and sensible man. He gave me a watch-coat to wrap around me, kept me under his own eye, and, I suppose, sent notice to my friends, for my wife and sister came with clothing. The paroxysm had passed, and gasping, panting for death in any form, I accompanied them home, steeped to the lips in despair.

"I had a little sickly boy, a special favourite on account of his helplessness; and after I was removed to the asylum, night and day the weeping and wailing of that child rung around me, and the cry, 'I 'm

hungry, father, I'm hungry,' scorched my heart like fire. This, to me, soul-harrowing cry, broke down what little reason I had remaining; and when my wife came to see me, I insisted on taking my clothes off to give her in order to procure food for the children. I inquired wildly for that child; she told me he was at home and well. How could I believe her, when I heard him distinctly, while she spoke, sobbing and crying, 'I'm hungry, father, I'm hungry!' I became convinced that the child was in the asylum, although I could not see him; and I was in the constant practice of putting a portion of my food, at every meal, into a corner, in the hope that he might fall in with it in his wanderings. His voice became weaker; and then the wail changed to —'My father does not care for me now.' The whole of my food was laid into corners for him now—I could not taste it. This was allowed to go on till it was evident that it would end in death, and then I was shut up in a room by myself, and food of the most savoury description offered me, and left with me. I tried to take it, when 'I'm hungry, father, I'm hungry,' from that now weak, dying infant voice, again pierced through my soul. I felt the blood rushing to my head—flames seemed to issue through my eyes, and then comes a blank in memory's book, the only blank that in all my sufferings I have ever known.

"I have reason to think that about a fortnight elapsed before memory awoke from that death-like slumber. How I behaved during that time I never knew; but the first thing I remember was awakening as out of a horrible dream. I think they had been trying what cold and darkness would do for me, for I was chilled to the marrow, and the place was dark. I thought to myself, without speaking, how long have I been here? when instantly a voice within me replied, 'A thousand years.' Impossible; I could not live so long, I thought, when the voice again replied, 'Thou shalt never die.' The idea of never dying struck more terror to my soul than ever sentence of death did to the veriest coward that ever crawled, and crouched, and begged for leave to live. I thought I saw a chink in the wall, through which light was streaming. It was imagination, for it must have been a solid wall. I looked through it, and there was a paved court, with stables all round, and troop-horses tied to rings in the wall. Some soldier-like men were grooming them, while others were cleaning carbines, holster-pistols, and swords. I knew now, what I had before suspected, that the asylum was a barrack for banditti—the pretended patients a band of brigands, and that there was not an insane or an honest man in the establishment. This idea continued for a long time in full force, and I had not got rid of it when I left the asylum. It received rather a startling confirmation the first day, I think it was, after I was brought down from seclusion. They were at that time

furnishing the west house, and two or three carts of furniture were driven past the window of the gallery in which I was placed. I recognised this at once as plunder, and could distinctly see a number of valuable articles belonging to a friend of mine who resided at no great distance from the asylum.

"To many a day of agony did that delusion doom me, for I was in terror for the fate of my friend, who came to inquire for or to visit me; and the very communicative spirit which had now taken permanent lodgings within me, assured me that if I gave my wife or any other friend the slightest hint about the character of the place, they never would be permitted to leave the asylum alive. Had it not been for this, I would have positively prohibited my wife from visiting me, although I knew that by so doing I would have opened the floodgates of utter despair. These visits were the 'be all and the end all' of my existence; and, perhaps, assisted by the agony thus mingled with them, kept my spirit alive, and saved it from sinking into that death of the intellect, idiocy. Many a dark hint I gave her; and one time after she left me, the idea that I had spoken too plainly, and that they had killed her in consequence, roused me into madness again. What a fearful week of sleepless suffering. Could I have got at that magazine of gunpowder, which I believed these robbers had stowed away in the cellars under the asylum, how eagerly would I have applied the match which would have blown us all to destruction. My wife, however, came on the appointed day as usual, and brought the child with her, whose hunger-stricken cry had so tortured me. He had been in the country, and had greatly improved in health and appearance; and as the little fellow clung round my neck and kissed me, I could not help thinking that he could not have been quite so hungry as he had said. It would appear that nothing short of the utter destruction of itself can satisfy the insane mind; for they had not long left me till I fancied that the child was still in the asylum, and that he had been fattened up by some infernal process for the purpose of deceiving me, and that his mother had been compelled to join in the conspiracy against her child and me.

"I often could not get sleep, or even attempt to sleep, for the spirit had taken up his lodgings in my stomach, replying to every thought, and most pertinaciously insisting that I should listen while he read to me out of a book, the words of which alternately fell cold as hail-drops on my brain, or flowed upon it like a stream of molten fire. Strange to say, circumstances which could only have been seen or known by me in my infancy, and of which I was entirely ignorant, but which, by after inquiry, I found to be true, were mingled with the most horrible lies. The truths must have lain forgotten and illegible in some dark

corner of the brain till lighted up and rendered readable by the wild glare which madness throws on everything around. Stung to the quick by a fearful lie which the spirit was reading about my father, I demanded the name of the book. 'It is the text-book of hell, the bible of the damned,' was the instant reply. After this, let him do as he liked, I would listen no more to him or his book; and, by persevering in this, the entire delusion slowly faded away.

"During the whole period of my residence in the asylum my wife visited me upon a stated day of each week, and except at the time of seclusion, when she was told that I was too ill to be seen, no week passed without her seeing me. During a portion of the time she had to travel from Rutherglen, seven miles distant from the asylum. There was no conveyance between these places in those days; yet, let the day be ever so stormy, there she was, true as the sun to her time. To this, to her I owe my preservation from suicide or idiocy. These visits gave me something to think upon; they were, as it were, a solid spot in a troubled ocean, whereon the spirit could occasionally rest. Often when I felt mad feelings arising, or a cold icy feeling of stupor creeping over my brain, I have been soothed or roused by the thought of seeing her and hearing from my children, my love for whom madness had only inflamed. Before the close of my confinement I believed that all my children were in the asylum, and I heard their different voices from under the floor, screaming to me to save them from tortures which I dare not name. It would have required a brain of brass to have withstood this; mine was never composed of any such material, and I would stand motionless as a statue for hours, feeling little, thinking little, and only possessed by a dreamy consciousness that I existed; and then a cry of agony from some much-loved voice would ring through my brain, like the last trumpet sounding the resurrection; then instantly that corpse-like form was raging with mad life, and that dark mental sepulchre was gleaming bright with fires that glowed like hell."*

* The Philosophy of Insanity, pp. 20–25. 1860.

INDEX.

A.

Abbe de Rance, mad from guilty conscience, 185.
Abscess, cerebral, accompanied by vertigo, 499.
and heart disease, 472.
caused by blows on the head, 499, 536.
generally accompanied by headache, 500.
headache, 401.
importance of inquiring into the antecedents of patient, in cases of suspected, 497.
importance of early detection of, 412.
often associated with chronic discharge from the ear, 499.
symptoms of, 499.
treatment, 536.
type of vertigo, 396.
in the left hemisphere of the cerebrum, 370.
formation of, preventable, 536, 537.
Abercrombie, Dr., case of loss of memory, reported by, 268.
case of paralysis preceded by aphonia, reported by, 378.
on cephalalgia accompanying intercranial disease, 401.
on cerebral amaurosis, 421.
on cerebral cephalalgia, 494.
on dyspeptic symptoms accompanying cephalalgia, 422.
on the impairment of the faculty of attention, 227.
on self-inspection and self-interrogation, 141.
Abernethy, Mr., case of injury of the head affecting the speech, 253.
Aberration, incipient, of the intellectual faculties, 193.
of mind affecting moral sense, 203.
of sight, 434.
Lucretius's poem written during an attack of mental, 172.
Aberration, incipient stage of, 193.
Abilities, mental, of the insane, 173.
Abin-Zoar, dream of, 462.
Acts of brutality, motiveless, 122.
Acuteness, mental, of the insane, 169.
of the insane, remarks by Lord Erskine on the, 177.
Advances, insidious, of morbid thought, 148.
Advocate, Dr Johnson's opinion on the duty of an, 136.
Affections, anomalous and masked, of the mind, 72.
Agitation, physical, of incipient insanity, 182.
Alarm and terror, state of, preceding aberration, 196.
Alchemists, Lord Bacon on the persevering efforts of the, 299.
Alderson, Dr, case of hallucination, mentioned by, 200.
Alfieri, on the effect of the atmosphere on the mind, 111.
Alleged lunacy, evidence in, 133.
Alterations of voice symptomatic of insanity, 393.
Amaurosis, dependent upon vascular congestion, 428.
early signs of cerebral, 421.
from disease of the brain, 424.
Amblyopia a symptom of disease of the brain, 421.
Amnesia, case of, 251.
indicating disorders of the brain, 250.
prelude to paralysis, apoplexy, and insanity, 250.
Amnestic, form of aphasia, 355.
Anæmia, causing cerebral disease, 211.
cerebral, the cause of epilepsy, 485.
Anæsthesia, connected with certain morbid cerebral states, 403.
cutaneous, 403.
from pre-occupation of mind, 406.
of the insane, cases of, 404–409.

Anæsthesia produced by morbid exaltation of the conscience, 413.
symptoms of occasional, often exhibited by patient some years prior to the apparent development of brain disease, 12.
unobserved progress of disease owing to, 406.
of the insane, 412.
Analysing subtle cases of insanity, art of, 176.
Anchillon on reverie and castle-building, 220.
Andral, case of ocular spectra, related by, 437.
on connexion between apoplexy and cardiac disease, 471
on morbid visual phenomena, 424.
Andrée, Dr, cases of epilepsy detailed by, 344.
Annihilation, physical and moral impossibility of, 287.
Anticipations, morbid, of insanity, 162.
Antimony—a substitute for bleeding in some forms of acute mania, 512.
Anomalous affections of the mind, 72.
Antipheron, deuteroscopy of, related by Aristotle, 441.
case of, related by Dr Copland, 378.
case of, reported by Dr Abercrombie, 379.
Aphorism of Hippocrates, 1.
Aphasia, 355.
classification of varieties of, by Dr Popham, 356.
case of, 365.
amnestic form, 355.
Apoplexy, amnesia often the prelude to, 250.
anticipation of, by Sir Walter Scott, 160.
case of, preceded by sensation of cold, 405.
connexion between, and cardiac disease, 471.
defects of vision premonitory of, 426.
effect of, on the memory, 269.
illusions premonitory of, 197.
incipient symptoms of, 332, 437.
incipient stages of, 532.
interesting case of, related by Sir Thomas Watson, 345.
Itard, Dr, on loss of memory accompanied by attacks of, 239.
loss of speech after, case related by Dr Cooke, 274.
preceded by great depression of spirits, 192.
Apoplexy, prediction of, 160.
premonitory signs of, 161.
softening of the brain causing, 480.
state of mental excitement precursory of, 160.
vertigo frequently the forerunner of, 380.
vitiated perception, precursory symptom of, 430.
Appetite, diseased states of, 469.
Apprehensions, morbid, of insanity, 145.
Aristotle, case of Antipheron, related by, 441.
on association of ideas, 311.
on memory in youth and age, 286.
Armstrong, Dr, on the slow progress of diseases of the brain, 6.
Arrest of intelligence, sudden, 327.
Arterial contraction in brain, the cause of epilepsy, 485.
Articulation, imitative movements of, 390.
involuntary, 391.
irregular action of the, 368.
morbid, 370.
Arsenic in the treatment of affections of the brain, 537.
Assimilative power of the blood, 296.
Ataxie, locomotrice, progressive, 352.
Atkinson, an idiot, tried for murder at the New York Assizes in 1858, 133.
Attention, Dr Abercrombie, on the impairment of the faculty of, 227.
Chalmers, Dr, on, 215.
genius nothing but continued, 214.
Hamilton, Sir W., on, 540.
heightened and concentrated, 221.
impairment of, 216.
importance of the faculty of, 215.
morbid concentration of, 221.
morbid effect of concentrated, 221.
morbid phenomena of, 213, 220.
treatment in impairment of, 539.
opinion of Buffon, Cuvier, and Lord Chesterfield, that genius is constituted by continued application of, 214.
sufficient importance not attached to the cultivation of the faculty of, in the education of women, 215.
Aspasia, dream of, 462.
Aura-epileptica, 340–345.
diagnosed from aura-hysterica, 492.
Aural illusions, 150.
Austin, St, on mysterious union of mind and matter, 31.
Autobiography of the insane, 61.

B.

Babbage, Charles, on the terrors of conscience, 185.
on the indestructible character of physical conditions, 287.
Bacon, Lord, his inductive philosophy, 44.
on the state of the mind of a person when drowning, 302.
on memory, 544.
on the persevering efforts of the alchemists, 299.
Baillie, Dr, curious case of impaired memory produced by paralysis, related by the late, 273.
Baillie, Joanna, invocation of madness by, 147.
Baths, douche, 513.
hip, efficacy of, in uterine affections connected with insanity, 520.
hot, efficacy of prolonged, 512.
shower, in melancholia, 513.
Baxter, on the sinless character of involuntary evil thoughts, 528.
Bazire, Dr P. V., on progressive locomotor ataxy, 354.
Beattie, Dr, on the limits of human reason, 33.
Beddoes, Dr, case of morbid misuse of words, related by, 374.
on the phenomena of attention, 217
Belhomme, M., on the localisation of speech, 357.
Bell, Sir Charles, on the degrees of cerebral sensibility, 14.
Belladonna, value of, in epilepsy, 537.
Bertin, Dr, on the connexion between apoplexy and cardiac disease, 471.
Birkett, Dr, case of singular irregularity of vision related by, 435.
Bleeding, cases which are benefited by, 509.
consequences of indiscriminate, 510.
in acute mania, beneficial result of, 508.
in acute mania, substitute for, 512.
Bood, Mr Paget, on the assimilative power of the, 295.
Blows on the head, idiotcy cured by, 320.
Boerhaave, insomnia of, 454.
on paralysis of memory, 264.
Boismont, Dr Brierre de, on prolonged hot baths in the treatment of acute insanity, 512.
softening of brain, 208.
remarks upon insanity in early life, 75.
Bonaparte, memory of, temporarily affected on the retreat from Moscow, 263.
Bonchut, E., on use of ophthalmoscope in brain disease, 504.
Borgia, Cæsar, description of the madness of, by Nathaniel Lee, 175.
Bouillard, Dr, on the connexion between apoplexy and cardiac disease, 471.
Boutteville, Dr, statistics, 77.
Brachet, Dr, case of morbid exaltation of vision related by, 431.
Brain, amaurosis from disease of the, 423.
amnesia indicating preceding disorders of the, 250.
Bell, Sir C., on phenomena resulting from injury done to the, 14.
diagnosis of softening of the, 496.
disease diagnosed by use of ophthalmoscope, 503.
disease of, often preceded by general depression, 192.
double vision a symptom of disease of the, 423.
early signs of softening of the, 331.
effects of diseased, on character, 101.
hyperæsthesia of the, 394.
illusions premonitory of disease of the, 200.
impaired nutrition of the, 211.
incipient symptoms of softening of the, 210.
is the mind situated in the, 293.
latent disease of the, 20.
memory of Pope Clement VI. strengthened after he had received a slight concussion of the, 319.
motion of, observed by Dr Pierquin, 179.
muscular tremors symptomatic of disease of the, 335.
neglected disease of the, 16.
Osborn, Dr, on loss of speech and memory in connexion with disease of the, 257.
photopsia an incipient symptom of acute disease of the, 443.
pathology of, 476.
physiology of the, 15.
softening of the, 210.
softening of the, frequently followed by apoplexy and hemiplegia, 482.
Bright, Dr, case of morbid articulation described by, 373.
Broca on localisation of speech, 363.
Brodie, Sir B., remarkable case of disordered memory related by, 258.

Brown, Rev. S., insanity of, 159.
Brown, case of Simon, 159.
Brutality, motiveless acts of, 122.
Buffon on genius, 214.
Burke, Edmund, on the benefit of the study of mental philosophy, 40.
Burton on impure thoughts, 530.
Butler, Bishop, his struggles against horrible morbid suggestions, 146.

C.

Cabanis on insenescence, 552.
Caldwell, Dr, on the effect of the pursuits of literature on life, 564.
on the longevity of those who signed the American Declaration of Independence, 565.
Carpenter, Dr, on disordered nutrition of the brain, 307.
Catalepsy affecting the memory, 309.
Case of impairment of memory, 275.
Catlin, Mr, on the self-imposed tortures of the Mandan Indians, 413.
Centric cerebral amaurosis, 421.
Cephalalgia, apoplexy preceded by, 402.
cerebral, confounded with other types of headache, 500.
diagnosis of, 500-503.
from cerebral lesion, 401.
in connexion with abscess in the brain, 402.
cerebral affections, 402.
chronic otorrhœa, 402.
softening of the brain, 402.
meningitis and cerebritis accompanied by, 495.
neuralgic and rheumatic, 499.
of central cerebral amaurosis, 421.
symptomatic of cerebral tumours, 499.
Cerebral abscess, loss of speech caused by, 357.
abscesses and tumours, 499.
amaurosis, early signs of, 421.
diagnosis, general principles of, 488.
disease, importance of early detection of, 428.
disease, sensations symptomatic of, 429.
headache, 453.
headache, diagnosis of, 500.
localisation of speech, 355.
nausea, diagnosed from gastric, 503.
pathology, general principles of, treatment and prophylaxis, 475.
physiology of speech, 355.
substance, insensible, 14.
tumours, nausea symptomatic of, 467.
Cerebral type of vertigo, 467.
diseases not suddenly developed, 3.
disease diagnosed by ophthalmoscope, 503.
Cerebritis, distinction between insanity and, 495.
psychical exaltation premonitory of, 187.
Chalmers, the Rev. Dr, on the faculty of attention, 215, 216.
Character, effects of disordered brain on, 79.
historical illustrations of diseased brain on, 101, 102, 103, 104.
Chemico-cerebral pathology, 297.
Chesterfield, Lord, on genius, 214.
insidious advances of morbid thought in a patient of, 148.
Children, insanity among, 73.
statistics of insanity among, 78.
Chilton, Samuel, remarkable case of lengthened sleep, 323.
Chloroform, effect of, on the mind, 112.
effects of, require to be carefully discriminated, 176.
great temporary prominence given to insane illusions by, 176.
treatment by, 517.
Chorea, psychical, 50.
Christina, Princess, of Sweden, 105.
Chronic affections of the memory, 253.
Circulation, morbid phenomena of, 470.
Cicero, remarkable instances of great memory cited by, 542.
on the study of mental philosophy, 41.
Clarke, Dr, state of his mind while drowning, described by, 303.
Classes of epilepsy, 485.
Claudius, Emperor, loss of memory by, from intemperance, 251.
Cod-liver oil in the treatment of diseases of the brain, 539.
Coleridge, curious case of knowledge of languages caused by fever related by, 307.
neglect of scientific men, 47.
stifling truth, 47.
on mental phenomena, 107.
view of madness by, 146.
Cŏmbe, Dr, on the investigation of the nature of insanity, observations by, 83.
Combe, Mr, case of perverted memory related by, 282.
Concealed delusions, 152.
Concentrated attention, morbid affect of, 225.

Condillac, Abbé de, on reverie, 219.
Conditions on which articulate speech depend, 355.
Confessions of a physician, an account of his own case, 588.
Confessions of patients, after recovering from insanity, 573–596.
of the Rev. Mr Walford, 590.
Confusion of memory caused by softening of the brain, 252.
Conium in the treatment of insanity, 517.
Conjunctiva, insensibility of, 404.
Conscience, Juvenal on vengeance inflicted by, 184.
unceasing tortures of a wicked and perturbed, 185.
Consciousness, case of divided, 281.
latent idea suddenly recalled to, 324.
of insanity, Horace on the, 144.
Shakspeare on the, 145.
stage of insane, 141.
Contemplation, morbid imaginative, 221.
Controlling insane ideas, power of, 159.
Convalescence, state of mind of insane patient during, 544.
Convulsive action, 337.
Cook, Dr, case of apoplexy related by, 334.
case of apoplexy, preceded by sensation of cold, related by, 405.
case of loss of speech after apoplexy, related by, 274.
premonitory symptom of epilepsy, related by, 343.
Co-ordination, morbid want of muscular, psychical defect of, 336.
Conscience, tortures of a wicked, 183.
on cephalalgia of centric cerebral amaurosis, 422.
Corpora olivaria, disease in the, 359.
Corpora quadrigemina, effect of pressure upon the, 13.
tumour pressing upon the, 423.
tumours interfering with, 362.
Corpora restiformia, effect of tumours interfering with the, 362.
disease of, attended with little or no pain, 402.
Corpus callosum, softening of the, 402.
Corrupt ideas and improper phrases of the insane, 153.
Corruption, innate, of the human heart, 155.
Cowardice produced by miasm, 100.
Cowper, hypochondriasis of, 123.
Crichton, Dr, curious case of misplacement of words related by, 225.
Crime prevented by medical treatment, 106.
Cruden, Alexander, "Concordance" of, compiled whilst insane, 172.
Cunning of the insane, 168–173.
Cuvier on genius, 214.

D.

Darwin, Dr, his case of religious insanity, 117.
Dax, Dr Mark on localisation of speech, 363.
Death, curious phenomena manifested at, 304.
Debility, general muscular, 331.
Decision of juries in cases of insanity, 139.
Defects, singular, of vision, 417.
Delepierre, M. Octari, Essays, 170.
Delirium tremens, 491.
distinction between, and insanity, 491.
Delusion, mental, singular case of, 114.
Delusion of the mind incipient symptom of acute affection of the encephalon, 196.
Delusions as to chastity of a wife, 151.
Dementia, Juvenal on, 247.
Demoniacal possession, cutaneous anæsthesia formerly considered a sign of, 403.
Depravity, natural, of the human heart, 155.
type of mental, 95.
Depression, mental, difficult to diagnose existence of, 190.
mental, necessity of vigilance in stage of, 191.
stage of general, 190.
Derangement of sight, 434.
Description, general, of incipient signs, 21.
Destruction of anterior lobes without aphasia, case of, 359.
Deterioration, sources of early moral, 156.
Deuteroscopia sign of brain disease, 445.
Devay, Dr, of Lyons, his illustrations of psychical states preceding brain affections, 202.
Devil, Luther and the, 107.
Diagnosis between cerebral and spinal paralysis, 331.
between eclampsia and epilepsy, 492.
between hysteria and epilepsy, 492.
general principles of cerebral, 488.
of cerebral headache, 499.

Diagnosis of existence of mental depression difficult, 190.
of insanity, 488.
of insanity, Dr Combe on, 83.
of softening of the brain, 495.
Digestion and assimilation, 466.
Digitalis, in treatment of insanity, 513.
Disease, importance of early detection of cerebral, 428.
Disease of brain, effect of, on the mind, 23.
Disease, mental, peculiar type of, 200
of brain, indicated by loss of memory, 165.
of the corpora olivaria, 359.
of the corpora striata, attended with little or no pain, 402.
sensations symptomatic of cerebral, 432.
Disorder, undetected mental cases of, 90.
of perceptive faculties, 194.
Disorders, acute, of the memory, 242.
of the brain, amnesia preceding, 250.
of the perceptive faculties, 196.
Disraeli on morbid imaginative meditation, 221.
Distinction between insanity and delirium, 491.
Distraction, morbid, 219.
Divided consciousness, case of, 282.
Division of the subject, 21.
Dog, mad, effect of the bite of, on the mind, 113.
Donatists, Gibbon's description of the, 117.
Double personality, remarkable case of, 282.
Douche bath, efficacy of, in the treatment of melancholia, 513.
Draper, Dr, on impressions made upon material substances, 313.
Dread, morbid, of coming madness, 147.
Dream of Abin Zoar, the physician, 462.
of Aspasia, 462.
of Count Lavalette, 55.
of a patient of Galen's, 462.
of Arnauld de Villeneuve, 462.
of Rodger d'Oxteyn, 462.
of the woman spoken of by Gunther, 462.
suicide committed after a frightful, 464.
Dreaming, natural phenomena of, rapidity of thought in, problems solved in, 51–53.
Dreaming, analogy between it and insanity, 55–57.
morbid phenomena of, 460.
morbid, preceding insanity, 462.
Dreams, difficult mathematical problems solved in, 51.
Hippocrates on, 462.
Morel, Dr, on morbid phenomena of, 463.
rapidity of mental action occurring in, 51.
Drelincurtius, case of enlargement of the pineal gland, 423.
Drowning, curious mental phenomena caused by, 303.
state of mind of Dr Clarke while, 303.
Dubois, hypochondriasis divided into three stages by, 221.
Duchenne's definition of progressive locomotor ataxy, 352.
Dudley, Earl of, his mental state, 144.
Dupuytren, Baron, remarkable case of disordered memory, 258.
Dura mater, alterations of structure in the, 13.

E.

Early treatment, importance of, 10.
Early life, insanity of, 75.
East wind, effect of, on the spirits, 111.
Effects of organic changes on the mind, 294.
Egomania, 91.
Electricity, beneficial result of application to the head, in cases of disordered memory, 256.
Professor Wheatstone on the velocity of, 316.
Ellenborough, Lord, incorrect judgment of, in case of an insane person, 177.
Elliotson, Dr, case of auricular hyperæsthesia by, 447.
Ellis, Sir W., on early treatment of insanity, 17.
Emerson on religion in connexion with an unhealthy state of the body, 530.
Emotional exaltation and depression, 25.
all structural lesions of, associated with derangement of sensorium, 23.
Encephalon, affections of the, consequent upon chronic otorrhœa, 402.
incipient symptoms of acute affections of the, 164.

Encephalon, inflammation of the, 395.
weakness of memory in organic diseases of the, 247.
Ennui, philosophical analysis of, not a condition of mental and brain rest, 25.
"Ephemerides Curiosæ," singular case reported in, 267.
Epilepsy after a dream, 342.
aura epileptica, 340.
case of, by Dr Schenck, 344.
case of, by Professor Kolk, 359.
cases of, by Dr Andrée, 344.
classes of, 485.
convulsive action connected with, 338.
caused by blows upon the head, 534.
caused by arterial contraction, 485.
dangerous type of obscure, 398.
diagnosed from eclampsia and hysteria, 492.
epilepsia cursiva, 344.
exaltation of mental faculties preceding, 341.
Foville on premonitory signs of, 340.
grand mal, 338.
incipient psychical manifestations, 340.
Marshall Hall, Dr, on, 331.
Morbid phenomena of motion connected with, 337.
Morel on, 342.
obscure types of nocturnal, 338.
pathology of, 485.
petit mal, 338, 398.
premonitory symptoms of, 341-345.
pseudo, 398.
the result of cerebral anæmia, 485,
value of Belladonna in, 537.
value of Bromide of Potassium in, 538.
treatment of, 537, 538.
Epileptic vertigo, 396.
various types of, 338.
Erotic monomania, case of, 118.
Error of colour, 418.
Erskine, Lord, on the acuteness of the insane, 177.
Esquirol, Dr, on early commencement of insanity, 74.
Evidence, Author misrepresented in case of Atkinson, 133.
in cases of alleged lunacy, 133.
Exaggeration of normal conditions often a sign of incipient insanity, 81.
Exaltation, description by Horace, 186.
emotional, 166.
Exaltation, morbid, of vision, 419.
of hearing, 446.
of memory, 282.
of memory, a fatal diagnostic sign, 283.
of sensation, 394.
of vision, 429.
patient of Dr Willis in stage of, 187.
Pinel, Dr, on stage of, 187.
psychical, 164.
somatic, 181.
spasm tonic and clonic in states of motor, 336.
stage of, 164.
Exalted tactile insensibility, 450.
sudden, Mrs Trollope's account of, 167.
Expert, duties of the psychological, 127.
Juvenal's advice to, 125.
Exuberant gaiety, Dr Mayo's description of, 168.

F.

Falret, Dr, results of his dissections in ninety-two cases of chronic mania, connected with disease of the heart, 472.
on the incubation of insanity, 193.
on premonitory symptoms of epilepsy, 342.
Faculties, intellectual, incipient aberration of the, 193.
perceptive disorder of the, 194.
Ferguson, Dr Adam, case of obscure disease of the brain, 427.
Fever, knowledge of languages caused by, 308.
Fleurens, M., on coma from chloroform, 460.
Forebodings of insanity, 145.
Foville, Dr, on premonitory signs of epilepsy, 340.
Frederick William of Prussia, insanity of, 104.

G.

Gaiety, exuberant, ominous symptom, when tendency to suicide is suspected, 168.
Galen, case of local anæsthesia, 495.
dream of patient of, 462.
Gall, Dr, anterior lobes of the brain preside over the organ of speech, 357.
case of idiocy related by, 327.
Ganglia, hemispherical, 13.
sensorial, 14.
Garrick, imitation of madness by, 328.

Gendrin, M., on impairment of mind, 211.
Generation, morbid phenomena of, 474.
Genius, nothing but continued attention, 214.
Gillio, Dr Pietro, interesting case of, by Dr Shapter, 271.
Glosso-laryngeal paralysis, 366.
symptoms of, 366, 367.
pathology of, 486.
Goethe, deuteroscopia of, 442.
on the influence of imaginative literature on the heart and mind, 39.
on the destructibility of mental impressions, 292.
rare faculty of producing phantoms at will, 432.
Good, Dr, case of intense acuteness of hearing and vision, 431.
Gratiolet, Dr, on inability to remember names, 238.
on ideas of things, 237.
on the effects of temporary physical irritation, 121.
Graves, Dr, case of impairment of memory, 276.
case of sudden loss of speech, 380.
on insomnia, 453.
Gregory, Dr, on the advantage of a knowledge of principles, 43.
case of spectral illusion, 202.
Griesinger, Dr, remarkable case related by, illustrating the sympathy between the brain and the organs of digestion, 466.
Griffen, Dr, cases of spectral illusions, 445.
Guislain, Dr, on morbid vocal phenomena, 393.
Gunther, dream spoken of by, illustrating dreaming preceding insanity, 462.
Gutta serena, symptoms of, 421.

H.

Hall on paralysis, 331.
Hall on perversions of temper, 91.
insanity, 146.
Haller, nature of vis nervosa of, 30.
Halford, Sir Henry, incorrect judgment of Lord Ellenborough in case of an insane person, 179.
Hallucinations, case of, by Dr Alderson, 200.
case of, by Morgagni, 199.
singular case of, 148.
Hamilton, Sir W., on the mind of Newton, 213.
on contented ignorance, 31.
Hamilton on transition between sleeping and waking, 51.
on association of thoughts, 311.
on attention, 541.
on latent mental impressions, 299.
on state of mind between sleeping and waking, 53.
singular case of catalepsy, 309.
Handwriting, morbid, symptomatic of paralysis, 346.
Happy types of insanity, 186.
Harris, Dr Elisha, case of puerperal mania, reported by, 321.
Hawkins, Dr F., on the early treatment of insanity, 91.
on affections of vision symptomatic of organic disease of the brain, 421.
Head, application of electricity to the, 256.
case of injury of, by Dr Abernethy, 253.
effect of injuries of the, on the memory, 255.
effect of blows on the, 534.
idiocy cured by blows on the, 320.
loss of language caused by a blow upon the, 253.
memory restored by a blow upon the, 320.
Headache, 401, 402.
cerebral, 402.
diagnosis of cerebral, 499.
disease of the brain not invariably accompanied by, 402.
symptomatic of tumours, 401.
Hearing, acuteness of, in delirium, 447.
case of hyperæsthesia of, by Dr Elliotson, 447.
hyperæsthesia of, 446.
illusions of the sense of, 448.
loss of, 446.
morbid phenomena of, 446.
perversion of, 446.
Heart and cerebral disease, 471.
connexion between apoplexy and disease of the, 471.
innate corruption of the human, 155.
Heberden, Dr, case of temporary blindness, 417.
Hellebore in treatment of insanity, 515.
Helmholtz, M., on the transmission of nerve force, 316.
Helvetius, genius nothing but a continued attention, 214.
Hemp, Indian, in treatment of insanity, 518.
Henbane in treatment of insanity, 517.
Herpin, M., on premonitory symptoms of epilepsy, 340.

Hertz, Dr., case of paralysis, 256.
Hibbert, Dr, singular case of spectral illusions, 201.
Hippocrates, aphorism of, 1.
connexion between mental and medical science, 34.
on dreams, 462.
loss of memory by, from fatigue, 251.
Homicidal insanity, subtle case of, 117.
mania, 123.
Hops in treatment of insanity, 517.
Horace, description by, of the feelings of a lunatic, 186.
description of the "happy madman," by, 515.
on consciousness of insanity, 144.
on impossibility of flying from self, 183.
on self-control, 526.
on the indestructibility of mental impressions, 292.
on the infirmities of old age, 242.
on the generally received opinion, 144.
Howard, the philanthropist, subject to fits of passion, 92.
Hume and Rousseau, 109.
loss of memory by, 251.
Hydrocyanic acid in treatment of insanity, 517.
Hydrophobia, singular case of, 113.
Hyperæmia of the brain, 249.
Hyperæsthesia, auricular, 447.
auricular and visual case, by Dr Elliotson, 447.
ocular, prior to an attack of apoplexy, 446.
cutaneous, 395.
in connexion with hydrophobia, 394.
in hysterical affections of women, 395.
in nervous affections, 394.
in inflammation of the encephalon, 395.
mistaken for neuralgia, 395.
of hearing prior to inflammation of the brain, 447.
of the senses preceding insanity, 447.
of vision, 429.
psychical, 164.
somatic in the incipient stage of insanity, 164.
Hypochondriasis divided into three stages by Dubois, 221.
premonitory symptom of epilepsy, 341.
Hypochondriasis of Cowper, 123.
Hysteria symptomatic of epilepsy, 341.

I.

Idea, morbid fixedness of, 329.
Ideas annulled by brain disease, 302.
indestructibility of, Goethe on, 292.
Horace on, 292.
indestructible character of, 292.
latent, suddenly recalled to consciousness, 325.
laws governing the association of, 310.
laws regulating the admission of, 240.
Locke on, 240.
morbid, 154.
natural classification of, 237.
of things, Gratiolet on, 238.
power of controlling insane, 170.
sudden resuscitation of lost, 318.
Idiocy, case of, related by Dr Gall, 327.
cured by blows upon the head, 320.
Dr Haslam, his account of case of moral, 98.
illustrations of moral, 96.
of Dean Swift, preceded by vertigo, 397.
Shakspeare, his delineation of moral, 98.
Ignorance, our, of mental and nervous force, 33.
honest confession of, by Sir I. Newton, 31.
popular, of insanity, 132.
Illusions, cases of spectral, related by Dr Griffin, 445.
of the sense of hearing, 447.
of the sense of hearing in epilepsy, 343.
of the senses, incipient symptoms of acute affections of the encephalon, 196.
premonitory of apoplexy, 198.
disease of the brain, 198.
insanity, 150.
singular case of spectral, related by Dr Hibbert, 201.
Illustrations of moral idiocy, 98.
Imagination, Dr Johnson's opinion that no disease of, is so difficult of cure as that which is complicated with dread of guilt, 185.
on the control of the, 223.
Imaginative literature, Goethe's opinion of its effect on the heart and intellect, 39.

Imbecility, insidious advances of mental, 209.
Impairment of mind, 209.
Impressions, fugitive mental, 113.
Impure thought, 571.
Incubation of insanity similar to transition state between sleeping and waking, 51.
Inductive reasoning as applied to medicine, 44.
Influence of literary pursuits on longevity, 563.
Injection, hypodermic, of morphia, 519.
Inner mental life, mysteries of, 144.
Insane, "Concordance" compiled by Cruden whilst, 172.
cruel treatment of the, 65.
delusions, great temporary prominence given to, by chloroform, 176.
deficient sensibility of the, 406.
gentleman, will of an, 170.
habit of biting the nails common among the, 450.
Haslam, Dr, on the examination of subtle cases of the, 174.
ideas, power of controlling, 169.
impurity of thought, 153.
kind treatment of the, 571.
Merier, Dr, on oscillation of the ocular globe among the, 436.
memory of the, 284.
pilfering and concealing, 206.
refusal of food by the, 468.
responsibility of the, in criminal cases, 125.
Shakspeare on the ability of the, to revive past impressions, 285.
sleeplessness of the, 456.
subtlety of the, metaphysically explained, 175.
views of lawyers with regard to the, 65.
wit, ingenuity, and cunning of, 168.
Insanity, amnesia often the prelude to, 250.
all notion of time lost in, 322.
among children, 73.
and dreaming, 55.
Brierre de Boismont on, of early life, 76.
case of undetected, 119.
clear recollection after attacks of, 62.
commencing in a dream, 464.
connexion between wit and, 168.
decision of juries in cases of, 138.
diagnosis of, 82.
distinction between, and delirium and cerebritis, 491.
Insanity, Dr Cullen's idea of the treatment suitable to, 64.
Dr F. Hawkins, his opinion as to the necessity of early treatment of, 19.
early treatment of, 17.
effect of, on the voice, 392.
eighty per cent. of cases cured by early treatment of, 17.
Esquirol, Dr, on early commencement of, 76.
exaggeration of natural states of mind in, 83.
fallacy pervading poetic, dramatic, and artistic descriptions of, 63.
foreshadowings of, 145.
happy type of, 186.
Horace on consciousness of, 144.
homicidal, 123.
Howard, brutal conduct of, to his own family, 92.
of Ophelia, 155.
ignorance of the nature of, 31.
illusions, premonitory of, 150.
impossibility of defining, 35.
incubation of, 152, 224.
latent and unrecognised, 88.
lucid intermissions during attacks of 58.
modern humane treatment of, 62.
moral treatment of incipient, 534.
morbid presentiments of, 160.
morbid anticipation of, 162.
morbid dreaming preceding, 462.
morbid apprehensions of, 160.
often a mixed condition, 62.
brought on by guilty conscience, 184.
pathology of, 476.
pathological and legal, 84.
Pinel, Dr, revolution effected in moral treatment of, 63.
Pinel, Dr, case of, unnoticed for fifteen years, 75.
plea of, 126.
popular notions of, 131.
premonitory symptoms of, 25, 79.
physical agitation of incipient, 182.
Shakspeare on consciousness of. 285.
Shakspeare's delineation of Hamlet's, 285.
singular case of concealed, 119.
singular case of recovery from, 592.
subtle types of suicidal, 191.
state of mind when recovering from an attack of, 544, 589.
temporary, of Rousseau, 109.
transformation of character in early period of, 72.
incipient cases of undetected, 120.

Insanity, Brown s, Dr, treatment of, 64.
what is, 29.
Insensibility from pre-occupation of mind, 406.
Insidious attacks, 7.
Insomnia, case of, related by Dr Wigan, 455.
of Boerhaave and Paganini, 454.
pathology of, 6.
symptomatic of the commencement of insanity, 459.
Instinctive appetites, ascendancy of, 179.
Intelligence, four psychical conditions of morbid, 24.
morbid phenomena of, 22.
sudden arrest of, 326.
Intemperance, loss of memory from, 251.
Introductory observations, 1.
Intellect begin to decline, when does the, 552.
Involuntary evil and blasphemous thoughts, 530.
Iodide of potassium in treatment of insanity, 532.
Iron, in the treatment of insanity, 532, 533.
Irregular muscular actions, 335.
Irritation, effect of bodily, on the mind, 112.
Island of Reil, description of, 364.
Issues, in the treatment of insanity, 536.
Itard, Dr, on loss of memory accompanying attacks of apoplexy, 239.

J.

Jackson, Dr Hughlings, on pathology of epilepsy, 485.
on use of ophthalmoscope in brain disease, 504.
Janson, Dr, case of softening of the spinal marrow, published by, 350.
Jeffries, Judge, his Bloody Assize, 104.
Johnson, Dr George, on use of ophthalmoscope in brain disease, 485.
Johnson, Dr, on controversial discussions occurring during sleep, 58.
delineation of incipient insanity in Rasselas, 153.
insidious advances of deranged thought traced by, 185.
on the indestructibility of mental impressions, 292.
on fancy and conscience, 185.
opinion of, as to duty of an advocate, 136.
Juries, decisions of, in cases of insanity, 134.
inconsistencies of, 134.
Jurist, medical, difficulties and responsibilities of, 130.
Juvenal, advice of, to a witness in a doubtful matter, 125.
on dementia, 247.
on vengeance inflicted by conscience on the guilty, even when acquitted by the court, 184.

K.

Kames, Lord, on association of ideas, 311.
King Lear, how Garrick learned to delineate, 328.
King of Sweden, case of obscure disease of the brain, 229.
Knowledge, mode of acquiring, 240.
Kolk, Professor, case of epilepsy related by, 359.

L.

Lallemand, Dr, on the connexion between apoplexy and cardiac disease, 471.
Language, loss of, caused by a blow on the head, 253.
morbid phenomena of, 306.
Languages, knowledge of, caused by fever, 307.
Larrey, M., case related by, the effect of a bullet wound on the memory, 261.
Latent disease of brain, 12.
mental impressions, phenomena of, 302.
Latent insanity, 88.
Lavalette, Count, singular dream of, 55.
Laval, Countess of, 306.
Laws governing the association of ideas, 311.
regulating the admission of ideas, 240.
Lee, Nathaniel, description of the madness of Cæsar Borgia, by, 175.
the "mad poet," 173.
Lesion of left hemisphere, its connexion with aphasia, 363.
Leuret et Gratiolet, MM., on dreams, 462.
Life, Dr South's observations on the inner mental, 143.
morbid phenomena of organic and nutritive, 466.
mysteries of inner mental, 143.
Line of separation between the sane and insane, 322.

Literary men, longevity of, 563.
Literature, imaginative, influence of, 39.
Localisation of organs of speech, 363, 364.
Locomotor ataxy, 352.
Locke on reverie, 218.
on the laws regulating the admission of ideas, 241.
on the permanent character of the pictures traced upon the memory, 286.
Logic, advantage of study of, by Stuart Mill, 43.
Longevity, the effect of literary pursuits upon, 563–565.
of those who signed the American Declaration of Independence, 560.
Lordat, Dr, theory of, as to weakened memory, 248.
Loss, sudden, of speech, 380.
of vision, 491.
Louyer-Villermay, case of memory restored by a blow on the head, related by, 319.
Lucian, ou the danger of excessive concentration of the mind on any one subject, 223.
Lucid intervals during attacks of insanity, 58.
Lucretius, poem "De Rerum Naturâ," written by, during an attack of mental aberration, 172.
Lunacy, anomalous state of the law of, 139.
evidence in cases of alleged, 134.
Lunacy and crime, 118.
Lunatic, critical essay on Original Sin, by a, 169.
Lunatics, danger of, being at large, 124.
Luther, mental irritability of, 107.

M.

Mabillon, Father, remarkable case of, recovery of intellect by a blow on the head, 320.
Mackay, Dr, on the insanity of Southey, 458.
Madness, Coleridge's views of, 146.
connexion between wit and, 168.
experts in, 130.
Mania, results of dissection in ninety-two cases of chronic, 472.
of children, diagnosis of, 78.
Marc on insanity in early life, 76.
Maniac, wail of homicidal, 124.
Martial and Richter on memory, 244.
Martin, Sir Ranald, nitro muriatic bath, 514.
Masked affections of the mind, 72.
Massinger on the necessity of self-knowledge, 36.
Mayo, Dr, exuberant gaiety, ominous symptom in certain cases, 168.
Medicina mentis, 33.
Medical witness, position of the, 125.
Medico-legal witness, duties of, 127.
Medulla oblongata, degeneration of the, 360.
effect of pressure upon the, 15.
Melancholy, Pope's description of, 166.
Memory, psychology and pathology of, 286.
perversion and exaltation of, 277.
Pope Clement VI. strengthened after he had received a slight concussion of the brain, 319.
remarkable case of disordered, 259.
restored by a blow upon the head, 320.
Rush, Dr, on, 547.
singular case of perversion of, related by John Hunter, 278.
sudden and transient loss of, 250.
Stewart, Dugald, on the various effects produced on the, by disease and old age, 238.
singular case of defect of, 275.
too early straining of, 551.
(morbid phenomena of), acute disorders of the, 242.
Aristotle on, in youth and age, 286.
as connected with intellect, 562.
automatic character of, 560.
Bacon, Lord, on, 544.
Berzelius' ideas respecting, 234.
Brodie, Sir B., on, 236.
Brougham, Lord, on, 243.
cases of great power of, in men of genius, 564.
cases of impaired, produced by paralysis, 256.
cases of perverted, related by Mr Combe, 279.
cases of power of, in old age, 542–550.
causes of impaired and paralysed, 273.
chronic affections of the, 253.
Claudius, loss of, from intemperance, 251.
confused state of the, 252.
disordered, singular case of, 270.
effect of apoplexy on the, 269.
effect of a bullet wound on the, 260.
morbid phenomena of, 233.
effects of paralysis on the, 256.

Memory, exaltation of, a fatal diagnostic sign, 283.
exercise of, 548.
Gratiolet, on, 237.
undue straining of, 548.
temporary loss of, 265.
Itard, Dr, on loss of, accompanying attacks of apoplexy, 239.
illustrations of great vigour of, 543.
John Hunter, loss of, by, 251.
loss of, as to names, case recorded by Dr Gratiolet, 238.
loss of, by Sir Isaac Newton, 544.
loss of, in advanced life, 248.
loss of, preceding and accompanying disease of brain, 250.
Martial on, 244.
Mill, James, on, 237.
Montaigne's remarks on, 547.
of Bonaparte temporarily affected, 262.
of idiots, 561.
of the insane, 277–284.
of early impressions, tenacity of, in Niebuhr, 242.
paralysis of the, 252.
premature impairment of, 243.
what is it?, 234.
psychology of, 235.
Mental action, rapidity of, occurring in dreams, 58.
torture, Cowper's, 123.
depravity, type of, 94.
disorder, unrecognised forms of, 87.
delusion, singular case of, 114.
depression, difficult to diagnose existence of, 190.
depression, stage of, 190.
necessity of vigilance in stage of, 191.
derangement, prediction of, 159.
emotion, effect of, on the ideas, 184.
excitement, frequently precursory of apoplexy, 252.
imbecility, insidious advances of, 209.
impressions, indestructibility of, 292.
impressions, phenomena of latent, 301.
dormant nature of, 318.
physical nature of latent, 313.
operations during sleep, 53.
phenomena caused by drowning, 303.
philosophy, study of, 41.
shock, effects of, on the memory, 270.
Merier, Dr, on oscillation of the ocular globe among the insane, 436.
Metaphysics, study of, ancient and modern, 37.
Metaphysics, unphilosophical prejudices against, 39.
Mill, James, on memory, 237.
Mill, Mr, on advantages of study of logic, 43.
Milton, of what passed in Adam's mind on awaking into life, description, 67.
Mind, anomalous and masked affections of the, 72.
cases of aberrations of, mentioned by Dr Brierre de Boismont, 205.
condition of, when in a state of aberration, 61.
delusions of, the incipient symptoms of acute affections of the encephalon, 200.
state of, premonitory of insanity, 166.
Metaphysics, on the study of, 37.
Mind, difference between an ordinary, and that of Newton, 213.
effect of chloroform on the, 112.
effect of meteorological changes on the state of the, 111.
effect of organic changes on the, 294.
exaggeration of natural states of the, 83.
general weakness of, 209.
Hamilton, Sir W., on state of, between sleeping and waking, 51.
impairment of, 209.
insensibility from pre-occupation of, 411.
vigour of, in old age, 552.
is the, situated in the brain? 298.
Lucian on the danger of an excessive concentration of the, to any one subject of contemplation, 223.
state of, premonitory of insanity, 167.
state of, when recovering from insanity, 66.
Tasso on the exaltation and depression of the, 25.
Misplacement, singular, of words, 371.
Monomania, unrecognised, 98, 99.
concealed, 99.
latent case of, 100.
Moral insanity, 93.
deterioration, sources of early, 156.
idiocy, illustrations of, 98.
Haslam, Dr, case of, 98.
Shakspeare's delineation of, 98.
sense, paralysis of the, 96.
perversion of the, 203.
therapeutics, neglect of the study of, 34.
Morel, Dr, on Nocturnal epilepsy, 339.

Morel, Dr, on dreams, 463.
on fasting, 468.
on heart and brain, 472.
Morbid affections of the spinal cord, 349.
anticipation of insanity, 162.
articulation, 373.
concentration of attention, 221.
derangement of sight, singular case of, 430.
distraction of reverie, 220.
dreaming preceding insanity, 462.
drowsiness and excess of sleep, 459.
effect of concentrated attention, 221.
exaltation of vision, 430.
fixedness of idea, 329.
handwriting, 346.
imaginative contemplation, 223.
imaginative meditation, Disraeli on, 221.
impairment of speech, 362.
impulses to folly and crime, 148.
case of, 149.
irregularity of speech, 369.
luminous phenomena, 439.
memory, proximate cause of, 273.
misuse of words, 371.
paroxysms of passion, 90.
phantasmal phenomena, 443.
phenomena of attention, 213.
circulation, generation, and respiration, 470.
language, 306.
hearing, 446.
memory, 242.
motion, 330.
organic and nutritive life, 466.
sensation, 394.
special senses, 415.
speech, 355.
sight, 415.
sleep and dreaming, 451.
vision, 419.
presentiments of insanity, 162.
sentiments of humanity, no wish to encourage, 123.
suggestions, struggle of Bishop Butler against, 146.
taste, touch, and smell, 448.
thought, conquered by effort of will, 526.
thought, insidious advances of, 142.
views of religion, 116.
vocal phenomenon accompanying insanity, 392.
vocal phenomena, Dr Guislain on, 393.
want of muscular co-ordination, 336.
Morphia, hypodermic injection of, 519.
Motion, morbid phenomena of, 330.
Motions, alterations of, in cerebral softening, 351.
Motiveless acts of brutality, 122.
Mouth, affection of the muscles of the, 345.
Mozart, acuteness of the sense of hearing of, 416.
Muller on permanency of ideas, 302.
Murder committed during sleep, 465.
Mutism, singular case of, 382.
Muscæ volitantes, 425.
Muscular tremors, symptomatic of brain disease, 335.
Muscular want of co-ordination, 336.

N.

Neglect of incipient head symptoms, 2, 3.
Nero, character of, 102.
Nerve force, M. Helmholtz on the transmission of, 316.
Nervosa vis, nature of, 30.
Neurine vesicular, changes in, 478.
Newton, Sir Isaac, difference between the mind of, and an ordinary mind, 213.
ignorance of phenomena of motion, 31.
on solving problems during sleep, 53.
loss of memory by, 544.
Nausea, symptomatic of cerebral abscesses and tumours, 467.
Nichol, Dr, case of error of colour, related by, 418.
Niebuhr, tenacity with which his mind retained early impressions, 242.
Niepcé de St Victor, M., on the influence of solar light on organic and inorganic bodies, 301.

O.

Obscure cerebral symptoms, 9.
Occasion fleeting, 1.
Ocular spectra symptomatic of disease of brain, 437.
Old age, Horace on the infirmities of, 242.
Olivier, M., case of loss of speech recorded by, 358.
Ophelia, insanity of, 155.
Ophthalmoscope, Mr Hutchinson on the use of the, 504.
its use in cerebral disease, 503.
Opium in treatment of insanity, 518.
Organs of speech, localisation of, 358.
Organic changes, effect of, on the mind, 294.
changes in the dura mater, pia mater, and tunica arachnoidea, 479.

Organic disease, originating in morbid concentration of attention, 221.
Original Sin, critical essay on, by a lunatic, 169.
Osborn, Dr, on loss of speech and memory in connexion with disease of the brain, 257.
remarkable case illustrating the morbid phenomena of speech, detailed by, 387.
Oscar, King of Sweden, case of, 229.
Otorrhœa, chronic, generally accompanied by cephalalgia, 402.
Oxteyn, Roger de, dream of, 462.

P.

Pagan, Dr, case of murder committed during sleep, related by, 465.
Paganini, insomnia of, 454.
Paget, Mr, on the assimilative power of the blood, 295
Paralysis agitans, 346.
amnesia often the prelude to, 250.
case of impaired memory, 275.
case related by Dr Rush, 266.
case preceded by aphonia, reported by Dr Abercrombie, 379.
diagnosis between cerebral and spinal, 331.
effects of, on the memory, 256.
general, of the insane, 257.
glosso-laryngeal, 366.
incipient symptoms of, 333.
insidious symptoms of, 346.
of deglutition, 334.
of ideas, 370.
of speech, 377.
of the moral sense, 95.
of the memory, 252.
of memory, case of sudden, related by Sir Thomas Watson, 371.
pathology of general, 479.
peripheral, 352.
premonitory signs of, 414.
Paraplegia, 330.
Parkinson, Mr, on paralysis agitans, 346.
Parise, Dr, on moral therapeutics, 34.
Paroxysms of passion, morbid, 90.
Pascal, on dreaming, 52.
Passion, morbid paroxysms of, 90.
analysis of, necessary to the physician, 45.
Passions, Sydney Smith on the, 47.
Pathology of memory, 286.
progressive locomotor ataxy, 486.
epilepsy, 485.
glosso-laryngeal paralysis, 486.
chemico-cerebral, 299.
Pathology, difficulties of cerebral, 475.
of general paralysis, 479.
of insanity, 476.
of insanity, progress made of late years in the, 64.
of sleeplessness, or insomnia, 451.
principles of cerebral, 475.
subtle, of insanity, 477.
Personality, double, remarkable case of, 282.
Perceptive faculties, disorder of the, 195.
Perversion of the moral sense, 203.
of memory, 281.
of thought, 149.
of perceptive faculties, 150.
Persistent character of physical conditions, 290.
Petrarch, case of Pope Clement VI., recorded by, 319.
Phantasms, rare faculty of producing at will, by Goethe, 432.
Phantasmagoria, 149.
Phenomena, Andral on morbid visual, 430.
curious mental, caused by drowning, 303.
curious, manifested at death, 305.
Dr Guislain, on morbid vocal, 393.
Dr Reid on difficulties attending on the investigation of psychical, 33.
morbid, luminous, 433.
of hearing, 446.
of intelligence, 22.
of language, 306.
of memory, 233.
of motion, 330.
of sensation, 394.
of sight, 419.
of sleep and dreaming, 451.
of the special senses, 415.
of speech, 355.
of vision, 419.
phantasmal, 443.
of latent mental impressions, 301.
resulting from injury done to the brain, 15.
singular phantasmal, 443.
Philosophy, advantage of Baconian, 44.
Photopsia, incipient symptoms of acute disease of the brain, 443.
Physical disease, effect of, on the character, 100.
agitation of incipient insanity, 83.
sciences, advantage of study to medical men, 42.
Physician, an account of his own case, recovery from insanity, by a, 589.
duties of, 566.

Physiology, cerebral, of speech, 358.
cerebral, 357.
of brain, 14.
Physiological physician, duties of the, 566.
Pia-mater, alterations in the structure of the, 13.
Pinel, Dr, case by, of insanity unnoticed for fifteen years, 75.
on the mental acuteness of the insane, 171.
on cerebral localisation of speech, 362.
on paroxysms of insanity, opinion of, 75.
on stage of exaltation, 187.
opinion of, alterations of speech as characteristic of general paralysis, 363.
revolution effected in the moral treatment of the insane by, 63.
Poetry, advantage of study, 38.
Popular notions of insanity, 131.
Power of controlling insane ideas, 159.
Prejudice against metaphysical research, 36.
Premonitory illusions of insanity, 150.
Presentiments, morbid, of insanity, 160.
Prichard, Dr, cases by, on the effects of paralysis on the memory, 254.
on effects of blows on the head, 320.
Priestley, Dr, curious case of error of colour, published by, 418.
Problems, intellectual, not solved in dreams, 53.
Progressive locomotor ataxy, 352.
pathology of, 486.
definition of, 352.
Pseudo-forms of mental disorder, 86.
Psychology of memory, 286.
Psychical exaltation, 164.
symptoms of, 165.
Psychological physician, duties of the 566.
Purgatives, their use in incipient and advanced stages of insanity, 516.

Q.

Quinine in the treatment of cerebral and mental affections, 539.

R.

Rancé, Abbé de, insanity of the, from effects of remorse, 185.
Ramollissement, idiopathic, 480.
Ravaillac, madness of, 118.
Reason, singular temporary restoration to, 59.
Reid, Dr, on difficulties attending the investigation of psychical phenomena, 33.
on matter and mind, 31.
Reil, description of island of, 364.
Relation between the physical and moral element, 527.
Religion, morbid views of, 117.
Repose and rest essential to restoration of mental energy, 225.
morbid, 219.
Respiration, morbid, phenomena of, 470.
and generation, 470.
Resuscitation, sudden, of latent ideas, 318.
Reverie, Abbé de Condillac on, 219.
Richeraud, mémoire read by, before the Ecole de Médecine, 470.
Robertson, Rev. F. W., on purity of thought, 157.
Rochoux on connection between encephalic and cardiac disorders, 471.
Rogers, state of his memory in advanced life, 247.
Romberg, Dr, case of hyperæsthesia of vision, related by, 434.
on affections of mobility, 332.
on cerebral headache, 502.
on diagnosis between cerebral and gastric nausea, 503.
on symptoms of gutta serena, 421.
Rousseau and Hume, 109.
Rullier, M., case of softening of the spinal cord, related by, 350.
Rush, Dr, case related by, 305.
case of paralysis related by, 266.
on the wit, ingenuity, and cunning of the insane, 169.
on paralysis of memory, 266.
rules for improving the memory by, 545.

S.

Savage, moral insanity of the mother of, 103.
Saucarotte, M., on cerebral and heart disease, 472.
Schedmaizig, Bernard, case of murder committed during sleep, 465.
Schenck, Dr, case of epilepsy, related by, 344.
Science, martyrs to, 46.
Schiller on the necessity for general knowledge, 34.
Scott, Sir Walter, anticipation of apoplexy by, 160.
Secker, Archbishop, on "Sin against the Holy Ghost," 530.

Sedatives, value of in checking recent brain mischief, 508.
the beneficial result of, in cases of melancholia, 517, 519.
Segur, Count de, on the effect of the Russian campaign on Napoleon, 263.
Seizure, sudden, cases of, 4.
Self, Horace on the impossibility of flying from, 183.
Self-inspection, neglect of habits of, 142.
Self-control, curative effect of, 526.
Sensation, exaltation of, 394.
morbid phenomena of, 394.
vitiated, 414.
Sensations symptomatic of cerebral disease, 428.
Sense, paralysis of the moral, 98.
Senses, morbid phenomena of the special, 415.
normal acuteness of the, 416.
Sensibility, deficient, of the insane, 406.
exalted tactile, 450.
Servants, profligate, injury done to the young by, 157.
Setons, 536.
Seymour, Dr, on depletion in cases of insanity, 508.
Shakspeare, delineation of moral idiocy by, 98.
description of King Lear's insensibility to cold by, 413.
insanity of Ophelia depicted by, 155.
on consciousness of insanity, 145.
on mental exaltation and depression, 25.
on the inability of the insane to revive past impressions, 285.
psychological truth of Hamlet's insanity delineated by, 285.
Shaksperian test of madness exploded, 285.
Shapter, Dr, of Exeter, case of loss of memory after apoplexy, related by, 270.
interesting case of Dr Pietro Gillio, published by, 270.
Sight impaired and paralysed, 419.
morbid phenomena of, 415.
perversion and aberration of, 434.
singular case of morbid derangement of, 434.
Singular cases of disorder of memory, 267.
Simpson, Professor, on tactile insensibility connected with general paralysis, 449.
Sleep, state of the mind during, 54.
Chinese punishment of death by deprivation of, 455.
insanity caused by want of, 458.
mental operations during, 53.
morbid disposition to excess of, 500.
excess of, 459.
phenomena of, 451.
murder committed during, 465.
Sleeping, transition state between it and waking, 51.
Sleeplessness of the insane, 452.
pathology of, 451.
Smell, morbid, of the insane, 448.
Smith, Sydney, on the human passions, 47.
Softening of the brain, apoplexy caused by, 481.
alterations of motion in cerebral, 351.
affections of the tongue, and muscles of the mouth connected with, 345.
caused by injuries on the head, 535.
case of, 391.
cases of, successfully treated, 533.
diagnosis of, 496.
early signs of, 331.
followed by apoplexy and hemiplegia, 480.
imitative articulation, sign of, 390.
insensibility, sign of, 406.
insidious advance of, 211.
muscular tremors, sign of, 335.
paralysis of speech, sign of, 376.
possibility of arresting in its early stages, 532.
symptoms of, 218.
thickness of speech, sign of, 390.
treatment of, 532.
want of muscular co-ordination, sign of, 336.
Solution, psychological, of the cunning and subtlety of the insane, 178.
Somatic exaltation, 181.
Sources of early moral deterioration, 156.
South, Rev. Dr, observations on the mysteries of inner mental life, 143.
Spasm of leg and arm preceding paralysis, 335.
Specialists not to be despised, 130.
Spectral illusions accompanying incipient insanity, 149.
Speech, alterations in, characteristic of general paralysis, 357.
cerebral localisation of, 355.
cerebral physiology of, 357.
impairment of, 375.
loss of, after apoplexy, 274.
loss of, 377.

Speech, loss of, caused by organic disease of the pons varolii, 358.
morbid following apoplexy, 411.
phenomena of, 357.
paralysis of, 377.
perversion of, 387.
remarkable case illustrating the morbid phenomena of, detailed by Dr Osborn, 387.
sudden loss of, preceding paralysis, 380.
Spinal cord, cases of softening of the, 350.
morbid affections of the, 350.
softening of the, 350.
Spurgeon, Mr, episode in the life of, 525.
Statistics of insanity among children, 75.
St Austin on mysterious union of mind and matter, 31.
Sterne, physical agitation of incipient insanity portrayed in his character of Smelfungus, 183.
Stewart, Dugald, condition of the will during sleep, 54.
on the various effects which are produced on the memory by disease and old age, 238.
explanation of the subtlety of the insane, 180.
Strabismus symptomatic of cerebral disease, 445.
Stramonium in the treatment of incipient insanity, 517.
Struggle between the animal and mental instincts, 146.
Strychnine in the treatment of incipient insanity, 539.
Subtlety of the insane metaphysically explained, 174, 180, 215.
Sudden resuscitation of lost ideas, 317.
Suggestions, struggles of Bishop Butler against morbid, 146.
Suicide, attacks of mental depression associated with a disposition to, 191.
person impelled to, by some latent and concealed delusion, 191.
committed by a person after being suddenly aroused from a frightful dream, 465.
Suicidal mania, Mrs Trollope's description of, 167.
Swift, Dean, singular presentiment of his imbecility, 162.
idiocy of, preceded by vertigo, 397.
Sydenham, Dr, on the effects of the epidemic fever on the memory in 1673, 261.
Symptoms characteristic of incipient cerebral disorder, 12.
early, of mental disorders, 29.
early, of insanity, 507.
incipient, of acute affections of the encephalon, 164.
incipient, of general paralysis, 495.
incipient, of insanity, 79.
incipient, of paralysis, 333.
incipient, of softening of the brain, 218.
insidious, of general paralysis, 212.
neglect of incipient, 2.
obscure cerebral, 7.
of cerebral abscesses and tumours, 499.
of gutta serena, 421.
premonitory of insanity, 28.
photopsia, one of the, of acute disease of the brain, 443.
premonitory of epilepsy, 340.
premonitory of paralysis agitans, 346.
progressive locomotor ataxy, 353.

T.

Tacitus on Christianity, 102.
Tasso on mental exaltation, 25.
Taste, morbid, 449.
Tartrate of antimony in incipient insanity, 512.
Temper disease, 91, 92.
Temperature, effect of, on the mind, 111.
Temptation, moral, 142.
Thalamus nervi optici, 424.
effect of disease of, 15.
Thought, laws governing operation of, 49.
curious case of morbid, 143.
disordered co-ordination of, analagous to St Vitus' dance, 50.
Dr Johnson on insidious advances of deranged, 194.
impersonal character of, 194.
insane, impurity of, 154.
insidious advances of morbid, 147.
laws governing the operation of, 49.
physical impediments interfering with, 315.
sinless character of involuntary evil, 527.
Thoughts, morbid, conquered by effort of will, 526.
Threatenings, first, of cerebral disorder, 20.
Thucydides, loss of memory by many who recovered from the effects of the plague at Athens, recorded by, 261.

Time, all notion of, lost in insanity, 322.
Tissot, Dr, on premonitory symptoms of epilepsy, 344.
Todd, Dr, on deposit in the arteries, 480.
Tonics, their importance in the treatment of the insane, 522.
Tongue, affections of the, 345.
tremor of, premonitory of cerebral attacks, 335.
Touch, morbid, of the insane, 448.
Treatment of incipient insanity, 506.
antiphlogistic remedies, 533.
arsenic, 539.
belladonna, conium, hydrocyanic acid, 517.
benefit of removing patient from home, 524.
bleeding, 508, 511.
by douche and shower-baths, 513.
chloroform, Indian hemp, stramonium, 517.
cold applications to the head, 512.
Graves, Dr, on obscure cerebral disease, 536.
hellebore, used by the ancients, 515.
henbane and hops, 517.
importance of isolating patient from excitement, 524.
importance of early, in arresting progress of disease, 507.
in incipient and advanced stages of insanity, 504, 505.
in suicidal insanity, 518.
isolation of patient, 524.
kind, of the insane, 569.
leeches, in injuries of the head, 536.
medical and moral, of impairment of memory, 568.
moral, of incipient insanity, 565.
opium, with digitalis, iodide of potassium, 532.
of apoplexy, 532.
of acute mania, 508.
of chronic insanity, 520.
of the early stage of insanity, 507.
of impaired attention, 539.
of incipient insanity, 504.
by enemata, 516.
of incipient softening of the brain, 532.
of injuries on the head, 535.
of melancholia, 520.
of the insane, by the physician, 523.
of paralysis, 532, 533.
possibility of arresting cerebral disease, and prevention by, 504.
purgatives, 516.
Treatment, sedative, 517, 518, 519.
setons and issues in injuries of the head, 536.
state of general health to be observed, 507.
stimulants in white softening, 533.
strychnine, 539.
tartrate of antimony, 512.
tonic, 539.
where the patient refuses to take either food or medicine, 520.
Trembling and oscillation of ocular globes, preceding dementia, 436.
Tremors, muscular, symptomatic of brain disease, 335.
Trousseau, Dr, on obscure types of epilepsy, 400.
on nocturnal attacks of epilepsy, 339.
on value of belladona in epilepsy, 537.
Tumours, cerebral, caused by blows on head, 535.
cerebral, growth of, preventable, 535.
cerebral, nausea symptomatic of, 467.
cerebral, symptoms of, 499.
headache symptomatic of cerebral, 499.
Tyrants, regal and domestic, 101.

U.

Ulric, Dr, interesting case, illustrative of incipient stage of paralysis, detailed by, 334.
Union, intimate, between the science of mind and that of practical medicine, 34.
mysterious, between organic tissues and emotions of the mind, 46.
between mind and matter, 46.
Urea, affecting nutrition of brain, 460.
in the blood, poisoning the brain and causing delirium, 460.

V.

Valentin on the sensibility of the brain, 16.
Van der Kolk on the corpora olivaria, 359.
Van Swieten on maniacal exaltation, 171.
Varieties of aphasia by Dr Popham, 356.
Velpeau's, M., case of softening of the spinal cord, 350.
Vertigo, cerebral, type of, 397.
Dr Clutterbuck on, 397.
epileptic, 396.

Vertigo, frequent forerunner of apoplexy, 397.
idiocy of Dean Swift preceded by, 397.
treatment of, connected with impaired memory, 541.
various types of, 396.
Vigilance, necessity of, in stage of mental depression, 99.
Vis nervosa of Haller, 30.
admitted ignorance of the, 297.
Vision, case of singular irregularity of, 441.
double, 445.
double, a symptom of disease of the brain, 423.
Hawkins, Dr F., on various affections of, 421.
hyperæsthesia, or exaltation of, 429.
impairment and loss of, 419.
morbid exaltation of, 419.
phenomena of, 419.
singular defects of, 417.
Visions, Pinel, Dr, on ecstatic, 463.
Vitiated sensation symptomatic of cerebral disease, 414.
Voice, alterations of, symptomatic of insanity, 393.
effect of insanity on the, 392.
Voix de Polichinelle symptomatic of incipient insanity, 392.

W.

Waking dreams, 528.
Walford, Rev. Mr, case of his restoration to mental health, 590.
confessions of, after recovery, 590, 592.
Want of muscular co-ordination, 335.
Watson, Sir Thomas, case of double vision related by, 446.
interesting case of paralysis detailed by, 345.
on the memory, 245.
Weakness, general, of mind, 209.
Weather, effect of changes in, on nervous disorders, 111.
Wheatstone, Professor, on the velocity of the electric agent, 316.
Whewell, Dr, his opinion of the general voice of mankind, 129.
Wigan, Dr, case of insomnia related by, 455.
case of phrenitis related by, 428.
curious case of perversion of thought in a clergyman, a patient of, 148.
Will of an insane gentleman, 170.
power of the, over disordered thoughts, 526.
Willis, Dr, patient of, in stage of mental exaltation, 187.
Wit, connection between madness and, 168.
of the insane, 168.
Dr Rush on, 169.
Witness, medical, in cases of insanity, 125–138.
Wollaston, Dr, his aberration of sight, 437.
Woman, sufficient importance not attached to the cultivation of the faculty of attention in the education of, 215.
Words, morbid misuse of, 387.
singular misplacement of, 371.

Y.

Young, Dr, anecdote of Dean Swift by, 162.
York assizes, misrepresentation as to author's evidence taken in case of Atkinson, 133.

Z.

Zuinglius, apoplectic turgescence of, 108.
Zimmerman on memory, 550.

THE END.

PRINTED BY NEILL AND COMPANY, EDINBURGH.

WELLCOME LIBRARY INSTITUTE