Mental diseases / by Charles F. Folsom.

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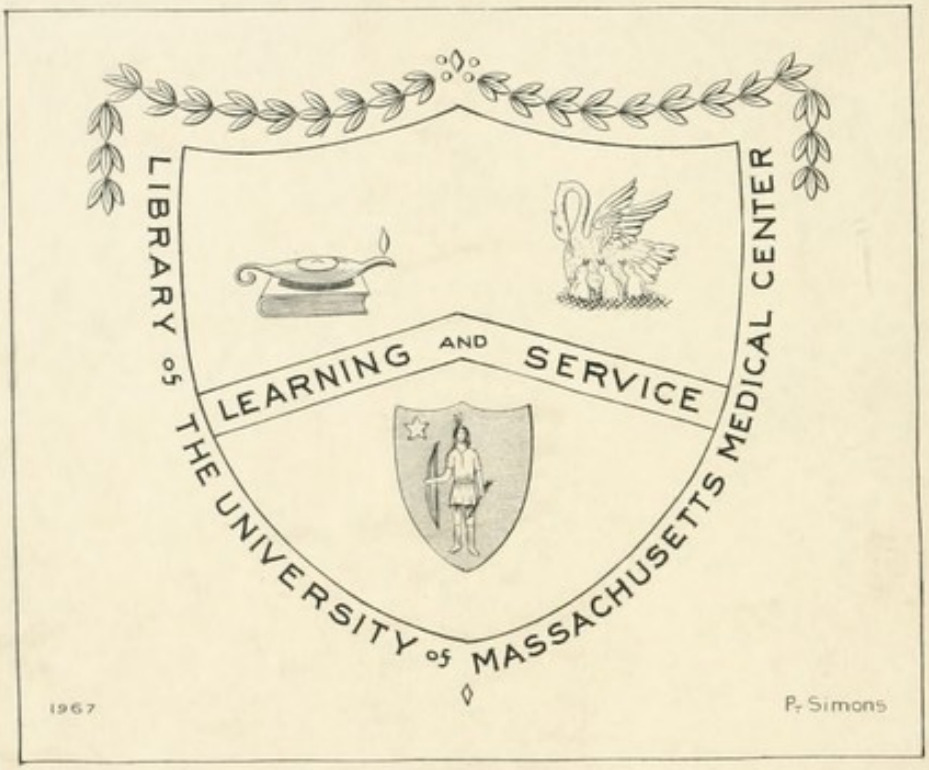

MENTAL DISEASES.

—BY—

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PREFACE.

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C. F. F.

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MENTAL DISEASES.

By CHARLES F. FOLSOM, M. D.

Definitions of Insanity.—The term insanity conveys quite different meanings to the community, to lawyers, and to physicians. From the three points of view its definition has been constantly widening for the past century. A great part of the alleged recent increase in insanity is due to the fact that its definition is applied to more people. Our insane asylums are more quiet and orderly, not only because of the more humane treatment of the inmates, but largely also because quieter and less insane people are now sent there than formerly. Doubtless the mistake is sometimes made of going so far, in zeal for science and philanthropy, as to make the definition of insanity too broad; and in a refined civilization the nice adjustment of complicated social relations, or even a fastidious taste, requires people to be sent to insane asylums who in simpler states of society would be cared for at home.[1]

The popular idea of insanity is of wild, incoherent, or crazy conduct. If maniacal, the timid or frightened young girl who would not hurt a fly, and the tottering, harmless old man if confused and partly demented, are hurried off to the asylum with the use and show of force suitable for a desperate criminal, while the victim of overwhelming delusions, because he seems clear, logical, and collected, is vigorously defended against the physician's imputation of insanity until he commits an offence against the laws, when he is fortunate if he is not treated as a criminal. It is often impossible for judges, juries, counsel, and even medical experts, to wholly divest themselves of the popular notions of insanity in cases appealing strongly to the passion or prejudice of the day. Cases involving the question of responsibility for crime are decided against science and the evidence because of certain preconceived notions upon insanity which no amount of skilled opinion can controvert. Jurors, and less often judges, make up their minds what a sane man would do under given conditions, and of what an insane man is capable, judging from the facts within their own experience; and in forming their decisions it is the act itself, and not the man, diseased or otherwise, in connection with the act, that chiefly governs them. Often they are right, not seldom wrong. Strange, apparently purposeless, illogical, inconsistent action is frequently attributed to the author of it being insane on that subject, whereas he may be sim-

[1] The physician in general practice is referred to Clouston's *Clinical Lectures on Mental Diseases*, and to Part 1 of Spitzka's *Manual of Insanity*. For those who wish to study insanity thoroughly the literature is rich and its bibliography is readily available. Of many parts of the subject only an outline, of course, can be given within the limits of the present paper.

ply acting from strong impulse or emotion, and may be by no means insane. On the other hand, because a man knows right from wrong in the abstract, and can ordinarily behave well, the very characteristic workings of his insane mind are often seized upon as unquestionable proof of sanity, even when they admit of no other explanation to the skilled physician than that of insanity. There is no doubt of the fact that the whipping commonly used in the treatment of the insane by the monks several centuries ago put an end to much insane conduct; and in insane asylums now, in spite of the best efforts of the medical staff to the contrary, a brutal, bullying patient is sometimes struck by another patient or an attendant in return for some unusually exasperating and cruel conduct, with the result of making him behave well in the future. It is with reference to this class of cases that the crowd oftenest errs in its definition of insanity. Society claims a voice in the enforcement of the laws for its own protection, assuming to know who could control themselves from crime and who not, and naturally wishes the standard of responsibility to be kept high. Of course its sympathies and prejudices largely govern its voice in the matter.

With precisely the same degree of insanity and the same power to control their actions two murderers may be sentenced, one to death for an act where the motive and method were those of the criminal, and the other to an insane asylum for killing a person under circumstances which are not explainable by sane reasons. The Pocasset Adventist who sacrificed his loved child, as he thought, by the Lord's command, would probably have been hanged if he had committed a crime similar to John Brown's, Wilkes Booth's, Orsini's, or Guiteau's. Sometimes the accused gets the benefit of the doubt, and sometimes society, according to the view of the merits of the case taken by the judge in his charge or by the jury in their verdict.

To the lawyer insanity means only a condition of mind with reference to certain conduct. An insane man is simply non compos mentis. Insanity is irresponsibility. The whole question to the lawyer is with regard to a certain act or series of acts. The lawyer's definition is narrower than that of the physician. In wills and contracts the course is usually clearer than when there is a question of serious crime, and even an insane person in an asylum may be a party to a valid contract or make a will that will hold in law. It is not necessary that a will or contract be such as would be made by a just man or a reasonable man, but simply that it fairly represent the wishes and character of the man making it, uninfluenced by any insane delusion or prejudice caused by mental impairment; that the will or contract in itself bear evidence of a correct appreciation of the circumstances and conditions of the case; and that the mind be able to act independently enough, with a reasonable knowledge of the duties of the individual and the just rights of others. An unsound mind, as defined by the physician, would cover a large portion of the convicts in our workhouses and prisons to-day if they could be critically examined, but the lawyers and courts would not find many of them insane. A man is not insane in law unless his act is traceable to, or its nature has been determined by, mental disease affecting his free agency; in other words, unless insanity caused his act either wholly or in great part.

In the partly irresponsible condition of mind often produced by grave hysteria, so-called nervous prostration, and the general mental and moral demoralization often seen in seduced and abandoned women, or after exhausting illness, or following apparent recovery from cerebral hemorrhages or embolism, blows upon the head, sunstroke, chronic alcoholism, syphilis, etc., there may be loss of self-control and a distinct moral perversion or decided change of character without very evident mental impairment; and the courts recognize a diminished capacity, as the result of disease, to appreciate and follow what is right and just and to avoid what is wrong or unjust, and yet not complete irresponsibility. In this connection the fact should be borne in mind that a very little mental disease can make bad people criminals, and may not take others beyond the bounds of propriety. A criminal may become insane and be still pretty much the same kind of a criminal as before. Morality, too, is relative, and many criminals, like children, know almost nothing of abstract truth, justice, or virtue, because they have never been taught them; and there are many cases where the perverse or criminal actions of people may be about equally explainable on the theory of insanity or wickedness. The criminal, a creature of his surroundings and associations, may often not be discriminated from the man with mental disease. Indeed, it is not difficult to take the philanthropic position that all criminals are insane because they are not in sympathy with the moral conceptions of their time, or, to use the fashionable expression of the day, because they are not in harmony with their environment. Such a view of crime, however, leads to only one of two conclusions—either that insanity is no sufficient defence for wilful violation of the laws, or that all criminals should be treated as persons of unsound mind.

The free agency of the individual is affected or modified in many different ways by the different diseases of the mind, and the question of responsibility will often be found to be one of the most perplexing problems with which the physician has to deal. If well-marked forms of insanity alone were to be investigated, the matter would be comparatively a simple one; but such is far from always being the case. The insane man often commits certain crimes precisely as an ordinary sane criminal would do the same thing. Often the evidence is contradictory, the testimony as to previous life and character conflicting, and the disease of so obscure a stage or type that it is almost impossible to form a clear opinion. The determination of a man's degree of free agency is no simple affair which can be decided in all cases by a few or a few dozen interviews. Not seldom the mystery remains unsolved after the autopsy. Man's free will is not the property of any substance which can be demonstrated by chemistry, physiology, or microscopical research, but it is the result of the combined action of a whole group of functional activities the very relations of which to each other are as unknown as their method of action. No stethoscope or ophthalmoscope can reveal its morbid action, which can only be inferred indirectly from the operations of the mind.

The cases in which the physician is called upon to define insanity as the term is used by the lawyers are (1) to secure limitation or control of an individual's actions, usually by a guardianship; (2) to control him absolutely in an asylum; (3) to estimate his culpability or criminality, or

his capacity to make a will or contract or to transact business. It is quite important, therefore, that the medical man should understand that there may be, as regards some particular person, a wide difference between medical insanity or mental disease and legal insanity or irresponsibility. He does most wisely when he confines his testimony to an explanation of the changes caused by disease in the particular case, and to the effect of such changes upon the mind, leaving to the judge's charge and the jury's verdict the questions of guilt and responsibility.

Insanity may be of congenital origin or slowly developed from early childhood, but usually it indicates a change caused by disease, so that the person alleged to be insane must, as a rule, be compared with himself at some previous time, and not with some ideal standard of mental health which does not exist. Indeed, if we could measure nicely no two of us could be fairly held to precisely the same degree of accountability. The knowledge of right and wrong is not a fair criterion, as many insane men possess that knowledge well enough in the abstract. The ability to distinguish right from wrong in the particular act is possessed by some insane persons whose will and power of self-control have become so limited by disease that they cannot avoid what they know to be crime. Delusion overpowering the mind is sufficient evidence of irresponsibility, but all delusions are by no means so powerful that they cannot be resisted, and many must be classed as simply false beliefs or mistaken views which could be, and should be, controlled. In case, therefore, of alleged delusions not manifestly insane further evidence of insanity is required, and the way in which a man believes or does anything may be more of an indication as to the soundness or unsoundness of his mind than what he believes or does. A crime committed under the influence of maniacal delirium, acute delirious mania, epileptic furor, uncontrollable impulse, alcoholic insanity, or hysterical mental disease will usually explain itself, while a demented insane person is so characteristic an object that his crime cannot well be mistaken for that of a responsible agent.

The different conditions of mind grouped under the general terms moral insanity, affective insanity, and impulsive insanity are still the bugbear of jurists, and there is a wide difference of opinion as to the degree of accountability for actions performed under the influence of moral perversion with only slight intellectual impairment; but the degree to which the individual deviates from the path of the law may depend more upon his training and surroundings than upon his disease—points which must always be considered in establishing a definition of insanity in obscure cases. Of two persons whose circumstances in life, in connection with a certain amount of disease, have produced as nearly as possible identical morbid mental states, it now and then happens that the necessary surroundings of the one steady and support him, while the associations and conditions of life throw the other still more off his balance. The one is able to sustain the ordinary relations with the world, the other not.

The intelligent study of mental disease by medical men has resulted in its being detected at so early a stage and in such a mild form that its proper treatment might almost be called, when successful, the prevention of insanity. Cerebro-mental disease, though it be only in its incipient form, implies to the physician the necessity for medical treatment; but it

is another question whether the disease is sufficient in amount to impair the power of self-control and will so as to determine irresponsibility. It is not the doctor's province to punish for crime, but to treat for disease, and he often forgets that fact. The various medical definitions of insanity in textbooks and on the witness-stand do not clearly enough state how far the medical and how far the forensic meaning of the word is implied. What seem to be wide differences of opinion regarding responsibility for crime, as given in the courts, are often due to different ways of stating the question, and nothing more.

Boileau said that all men are insane, the only difference between them being the varying degrees of skill with which they are able to conceal the crack; and Montesquieu, that insane asylums are built in order that the outside world may believe itself sane. In 1832, Haslam, one of the first experts in mental disease in England at that time, testified in court that he had never seen a sane man in his whole life, adding, "I presume the Deity is of sound mind, and He alone."

It is impossible to give a satisfactory definition of insanity, to draw any hard and fast line on one side of which we should put all the sane, and on the other all the insane. It is not possible to divide insanity from sanity by a single criterion, such as the existence of delusions, inasmuch as many sane people have very curious delusions; for instance, Sir William Blackstone's belief in witchcraft, as stated in his *Commentaries on the Laws of England;* Martin Luther's assertion that he saw the devil and threw an inkstand at him at a time when a belief in a personal devil was required by the canons of the Church of England; Napoleon's faith in his star; the common belief of the French generals that Joan of Arc's hallucinations were divine messages. Insane delusions have been defined as false beliefs, impossible from the nature of things or the circumstances of the case, according to general belief. One can only judge of each case and each person by the conditions attending them. A belief consistent with one person's whole life and character might indicate such a change in another as to be a mark of insanity.

Hallucinations—"psycho-sensorial disturbances characterized by sensations perceived when the exercise of the sense has not been determined by any external excitation"—are characteristic of many conditions of disturbed health besides insanity; and the same is true of illusions—erroneous interpretations of sensations actually perceived. In both cases the existence of insanity is determined by the fact whether or not the erroneous impressions are corrected by the judgment. An important point is to consider most carefully every unnatural, strange, or unexplained action, whether deliberate or from impulse, particularly in the large class of eccentric, ill-balanced, or weak-minded persons on the border-line between sanity and insanity. There are people who at one time seem to belong to the sane and at another to the insane class. Baillarger states that the essential element of insanity is loss of free will. Ball of Paris describes an insane man as one who, in consequence of a profound disturbance of the intellectual faculties, has lost more or less completely his free will (liberté morale), and has ceased thereby to be responsible to society for his actions.

Bucknill describes insanity, in his Sugden prize essay, as "a condition of the mind in which a false action of conception or judgment, a defec-

tive power of the will, or an uncontrollable violence of the emotions and instincts has been separately or conjointly produced by disease." Maudsley's definition is, "Insanity is, in fact, disorder of brain producing disorder of mind; or, to define its nature in greater detail, it is a disorder of the supreme nerve-centres of the brain—the special organs of mind—producing derangement of thought, feeling, and action, together or separately, of such degree or kind as to incapacitate the individual for the relations of life . . . . Mind may be defined physiologically as a general term denoting the sum-total of those functions of the brain which are known as thought, feeling, and will. By disorder of the mind is meant disorder of those functions."

Bucknill considers insanity a disease of the brain affecting the integrity of the mind. Maudsley calls it a disorder of the mind of such a degree as to incapacitate one for the ordinary relations of life, implying that there may be certain deviations from the condition of sound mind which do not constitute insanity. Tuke's definition is that "insanity consists in morbid conditions of the brain, the result of defective formation or altered nutrition of its substance, induced by local or general morbid processes, and characterized especially by non-development, obliteration, impairment, or perversion of one or more of its psychical functions." Instead of itself being a disease, insanity, properly speaking, is a symptom of diseases which under varying manifestations probably affect different functions of the brain—at least they affect the brain in different ways.

As Krafft-Ebing says, "It is a logical, self-evident proposition that the organ whose function under normal conditions is to bring about all mental processes must be the seat of changes when these functions are disturbed;" and Schüle adds, "The study of disturbances of the mind involves the changes of the normal mental functions produced by disease. . . . . Mental diseases are brain diseases, but they are more than that." The normal action of the mind is a strange combination of reason and impulse, varying greatly in different persons, and in the same person at different times and under varying influences. The relations of the one to the other, and their influence on action, often change, under varying conditions and circumstances, in sane persons, but still more in the insane.

Lord Bramwell once said that insanity is strong but not conclusive evidence of innocence; and Lord Blackburn has stated that the jury must decide in each individual case whether the disease of the mind or the criminal will was the cause of the crime. The position of Sir James Stephen in his *History of the Criminal Law in England* best states the most recent views of irresponsibility—namely, that "no act is a crime if the person who does it is, at the time when it is done, prevented either by defective mental power or by any disease affecting his mind from controlling his own conduct, unless the loss of the power of control has been produced by his own default." He says that a man laboring under such a defect of reason that he does not know that he is doing what is wrong may be defined as one deprived, by disease affecting the mind, of the power of passing a rational judgment on the moral character of the act which he meant to do. There are persons too insane to make a valid will by virtue of a single delusion, whose right to vote, under the law prohibiting the insane from voting, would not be questioned. Another

might not be held responsible for crime, and still make a contract involving the rights of others besides himself that would hold in law.

Bucknill's recent medico-legal definition of insanity is, incapacitating weakness or derangement of mind produced by disease; meaning, in criminal cases, inability of abstaining from the criminal act, which would be expressed by Lord Bramwell's test, Could he help it? Bucknill suggests as an amendment to the law of England that no act is a crime if the person who does it is at the time incapable of not doing it by reason of idiocy or of disease affecting the mind.

Any definition of insanity would be incomplete without the statement of Hughlings Jackson's view, that disease only produces negative mental symptoms answering to dissolution, and that all elaborate positive mental symptoms (illusions, hallucinations, delusions, and extravagant conduct) are the outcome of activity of nervous elements untouched by any pathological process; that they arise during activity on the lower level of evolution remaining; that the insane man's illusions, etc. are not caused by disease, but that they are the outcome of activity of what is left of him (of what disease has spared), of all there then is of him. His illusions, etc. are his mind.

THE CLASSIFICATION OF MENTAL DISEASES.—There is no universally accepted classification of mental diseases, and the same terms even are used by different writers to convey entirely different meanings. The classification according to the causes of insanity was suggested by Morel of Paris, and fully elaborated by Skae of Edinburgh, as follows: (1) Moral idiocy; (2) intellectual idiocy; (3) moral imbecility; (4) intellectual imbecility; (5) epileptic insanity; (6) insanity of masturbation; (7) insanity of pubescence; (8) hysterical mania; (9) amenorrhœal mania; (10) post-connubial mania; (11) puerperal mania; (12) mania of pregnancy; (13) mania of lactation; (14) climacteric mania; (15) ovario- and utero-mania; (16) senile mania; (17) phthisical mania; (18) metastatic mania; (19) traumatic mania; (20) syphilitic mania; (21) delirium tremens; (22) dipsomania; (23) mania of alcoholism; (24) post-febrile mania; (25) mania of oxaluria and phosphaturia; (26) general paralysis; (27) epidemic mania; (28) idiopathic sthenic mania; (29) idiopathic asthenic mania.

In a large proportion of cases the causes of insanity are so many and so complex that it is not within human power to say which of a number has been the most important, or the assigned and classified cause may be only an accidental complication or the most striking, but by no means most potent, cause.

The classification, according to the functions interfered with, is that adopted by Maudsley and by Bucknill. According to Bucknill, we have

(1) Insanity of the intellect or ideas: Idiocy, imbecility, dementia, delusional insanity, monomania, mania.

(2) Insanity of the feelings and the moral sentiments: Moral imbecility, moral insanity, melancholia, religious insanity, hypochondriacal insanity, nostalgic hypochondriacal insanity, exaltation regarding religion, pride, vanity, ambition.

(3) Insanity of the propensities, instincts, or desires: Mania, homicidal mania, suicidal mania, erotomania, dipsomania.

Maudsley's classification, according to the faculties thought to be affected,

is also inconsistent: I. Affective insanity: (1) Simple mania; (2) simple melancholia; (3) moral insanity. II. Ideational insanity: (1) General (acute and chronic mania and melancholia); (2) partial (monomania and melancholia); (3) dementia (primary and secondary); (4) general paralysis; (5) idiocy and imbecility.

The classification according to symptoms is most generally adopted, being used, more or less modified, in Germany, generally in France, and more commonly than any other in this country and in England. It has been suggested by different writers in a dozen different forms, differing only in details. Griesinger's is as follows:

(1) States of mental depression: Hypochondriasis; simple melancholia; melancholia with stupor; melancholia with destructive tendencies; melancholia with persistent excitement of the will or impulse (moral insanity).

(2) States of mental exaltation: Mania; monomania.

(3) States of mental weakness: Chronic mania; dementia; idiocy; cretinism.

As important complications of insanity he places general paralysis of the insane and epilepsy, and various disorders of sensation and movement, such as convulsive gait, general cramps, choreic movements, hyperæsthesia of the skin, etc.

A classification according to the morbid condition of the brain has thus far proved unsuccessful. Up to the present time this remains largely a field of speculation, and even with the immense progress of the past dozen years it is a subject upon which there is now little definite to be said. Voisin's system is purely visionary—namely: I. Idiopathic insanity, due to vascular spasm. II. Insanity dependent on brain lesions: Congestive insanity; insanity from anæmia; atheromatous insanity; insanity from brain tumors. III. Insanity from alterations of the blood: Diathetic insanities; syphilitic insanity.

In basing his nomenclature on the clinical history of the various forms of insanity, Clouston makes his classification as follows:

(1) States of mental depression (melancholia, psychalgia): (*a*) Simple melancholia; (*b*) hypochondriacal melancholia; (*c*) delusional melancholia; (*d*) excited melancholia; (*e*) suicidal and homicidal melancholia.

(2) States of mental exaltation (mania, psychlampsia): (*a*) Simple mania (folie raisonnante); (*b*) acute mania; (*c*) delusional mania; (*d*) chronic mania.

(3) States of regularly alternating depression and exaltation (folie circulaire, psychorhythm, folie à double forme, circular insanity, periodic mania, recurrent mania).

(4) States of fixed and limited delusion (monomania, monopsychosis): (*a*) Monomania of pride and grandeur; (*b*) monomania of unseen agency; (*c*) monomania of suspicion.

(5) States of mental enfeeblement (dementia, amentia, psychoparesis, congenital imbecility, idiocy): (*a*) Secondary (ordinary) dementia (following acute or subacute disease, ending in chronicity); (*b*) primary enfeeblement (imbecility, idiocy, cretinism), the result of deficient brain development or of brain disease in very early life; (*c*) senile dementia; (*d*) organic dementia (the result of organic brain disease).

(6) States of mental stupor (stupor, psychocoma): (*a*) Melancholic

stupor (melancholia attonita); (*b*) anergic stupor (primary dementia, dementia attonita); (*c*) secondary stupor (transitory, after acute mania).

(7) States of defective inhibition (psychokinesia, hyperkinesia, impulsive insanity, volitional insanity, uncontrollable impulse, insanity without delusion): (*a*) Homicidal impulse; (*b*) suicidal impulse; (*c*) epileptiform impulse; (*d*) animal impulse; (*e*) dipsomania; (*f*) pyromania; (*g*) kleptomania; (*h*) moral insanity.

(8) The insane diathesis (psychoneurosis, neurosis insana, neurosis spasmodica).

Some of the German mental pathologists have endeavored to combine in their classification the clinical history with the little that is known of its morbid anatomy. Meynert has gone so far in this direction as to have constructed an ideal mental pathology belonging to the sphere of brilliant speculation rather than exact science. Schüle has well summarized our knowledge on these points, as follows:

I. States of mental defect or degeneration. (1) States of mental defect: (*a*) Microcephalism; (*b*) idiocy. (2) States of mental degeneracy, chiefly as the result or further development of (*a*) Hereditary insanity, impulsive insanity, moral insanity; (*b*) insanity from the severe neuroses, epileptic insanity, hysterical insanity, hypochondriacal insanity; (*c*) periodic and circular insanity.

II. Insanity in persons of full mental and physical development:

(*A*) The cerebral neuroses causing mental disease, affecting primarily the mind alone (psychoneuroses): (1) The acute or subacute typical cerebral neuroses in healthy neurotic persons and with a vaso-motor origin: (*a*) Primary form, melancholia, melancholia agitata, simple mania; (*b*) secondary form, chronic mania and monomania, dementia. (2) The chronic cerebral neuroses giving rise to mental disease founded on degeneration and of neurotic origin primarily (delusional insanity): (*a*) Primary monomania of persecution, with a condition of pure mental depression or with exaggerated and exalted ideas; (*b*) delusional insanity, strictly speaking, psycho-convulsive form (maladie du doute), psycho-cataleptic form (delusional insanity attended with anomalies of sensation).

(*B*) The organic mental diseases affecting the psychic functions (cerebro-psychoses), differing from (*A*) chiefly in being deeper-seated: (1) With motor symptoms of excitement (acute mania): (*a*) Mania furiosa (including mania transitoria); (*b*) mania gravis; (*c*) acute delirious mania. (2) With motor neuroses and symptoms resembling catalepsy, tetanus, and anergic stupor, or the various forms of Spannungsneurosen: (*a*) Melancholia attonita; (*b*) delusional stupor; (*c*) primary dementia (stupor), acute and chronic. (3) With progressive paralysis, the typical form of paralytic dementia.

(*C*) The distinct lesions of the brain, giving rise secondarily to psychical disturbances. The modified paralyses or cerebral diseases in which dementia and paralysis are both observed clinically: (*a*) Meningo-periencephalitis, chronic and subacute; (*b*) pachymeningitis and hæmatoma; (*c*) diffuse encephalitis with sclerosis, without mental excitement and with mental excitement; (*d*) diffuse encephalitis with local softening, apoplexy, capillary aneurisms in groups or singly, multiple sclerosis; (*e*) diffuse encephalitis arising from foreign growths in the brain; (*f*) chronic peri-

encephalitis, with previous tabes dorsalis; tabic paralysis; (*g*) primary atrophy of the brain, with accompanying spinal tabes, tabic dementia; (*h*) syphilitic encephalitis, with disturbances of the mind.

Krafft-Ebing's classification is as follows:

A. Mental Diseases of the Normal Brain.—I. Psychoneuroses: 1. Primary, curable diseases: *a*, Melancholia—*α*, Simple melancholia; *β*, melancholia with stupor; *b*, Mania—*α*, Maniacal exaltation; *β*, acute mania; *c*, Stupidity (primary dementia) or curable dementia; *d*, confusional insanity (Wahnsinn). 2. Secondary, incurable diseases: *a*, Chronic delusional insanity; *b*, terminal dementia—*α*, with agitation; *β*, with apathy.

II. Conditions of Mental Degeneration.—*a*, Constitutional affective insanity (folie raisonnante); *b*, moral insanity; *c*, primary monomania—*α*, With delusions of persecution; *β*, with delusions of ambition; *d*, with imperative conceptions; *e*, insanity from constitutional neuroses—*α*, epileptic; *β*, hysterical; *γ*, hypochondriacal; *f*, periodic insanity (folie circulaire).

III. Diseases of the Brain with Mental Disturbances Predominating.—*a*, Paralytic dementia; *b*, cerebral syphilis; *c*, chronic alcoholism; *d*, senile dementia; *e*, acute delirium.

B. Conditions of Arrested Mental Development.—Idiocy and cretinism.

Krafft-Ebing agrees with Schüle in dividing mental diseases into two classes—those of a degenerative nature arising from the development of an hereditary or congenital neurotic tendency, or from injury, sexual or alcoholic excess, etc., and those which occur from what may be called accidental causes in otherwise healthy persons, in whom mental disease would not be anticipated, and from which the late Isaac Ray said that, with sufficient exciting cause, no one has any privilege of exemption. The essential distinction between them was pointed out by Moreau and Morel, and is best stated by Krafft-Ebing:

Degenerative insanity is a constitutional disease arising from slight exciting causes, even physiological conditions (puberty, menstruation, the puerperal state, climacterium), but for the most part from pathological conditions, chiefly hereditary predisposition, injury to the head, acute disease, etc., occurring during development of the sensitive brain, forming often the last in a series of neuropathic disorders, such as spinal irritation, hysteria, hypochondria, epilepsy. The tendency to recovery is slight, and generally there is only temporary return to the primary condition. Relapses and progressive development of graver forms of disease are common. There is progressive hereditary mental degeneration or a strong tendency to appear in descendants in progressively severer form. All forms of the psychoneuroses occur, but of severe type and irregular course, with sudden and rapid changes in the character of the disease, which does not follow any particular course and cannot be definitely classified, rarely ending in dementia, and often lasting in some form through life. The tendency to periodicity is strong. Delusions are chiefly physio-pathological as direct creations of the diseased brain, entirely without apparent cause, to the astonishment of the person and independent of his frame of mind at the time. They appear and disappear, to be replaced by morbid impulses or mental weakness. Delusions are strange, mysterious, monstrous, without possible explanation from the

nature of the disease. There is, for the most part, an inseparable transition from pathological predisposition to actual disease, with a strange mixture of lucidity and diseased mental perversion. Acts are often from impulse. There are sudden outbursts or short attacks; as, for instance, in periodic, hysterical, and epileptic insanity.

In psychoneuroses developed in persons of previously normal brain-function heredity is only a latent predisposing cause. The tendency is to recovery; relapses are infrequent. They are not so readily transmitted to later generations. The disease follows the course of some well-defined type. There is not a tendency to periodicity. Delusions arise chiefly from psychological sources as the result of diseased mental conditions. They are usually not early symptoms, and in general they correspond with the prevailing state of the mind. Delusions correspond with the mental state. The change from health to disease is well defined.

These are the main features of the two classes of mental disease, but the line between them is not a hard and fast one, and it is not seldom impossible to place a particular diseased person definitely in the one or the other.

The objection to all of the classifications of insanity now in use, that they have not an accurate scientific basis, and that a diagnosis must often be delayed or changed as symptoms develop, applies, although in a less degree, to other diseases than of the mind.

History.—The history of insanity is probably as old as the human race, although its rarity among savage nations at the present day, and its greatest prevalence where there are the widest extremes of wealth and poverty, indicate that it is essentially a disease of the high civilizations. It is found even in the lower animals. It is described in the early writers on medicine from Hippocrates and Plato down. The ancient Egyptians had temples dedicated to Saturn, where they cared for the insane with music and dancing. The Greeks and Romans treated the sick, and probably some of the insane, in rooms adjoining their temples. The monks of Jerusalem built an asylum for the insane of their number in the sixth century. There were several asylums in existence among the Moors in the seventh century, and it is thought that at the time of their invasion of Spain they introduced them into Western Europe. The monks, who were the chief depositaries of medical knowledge in the Middle Ages, treated the insane, as they did to a less extent each other, by flagellations, until St. Vincent de Paul and the Knights of Malta proclaimed insanity a disease and treated it as such. It would be idle to estimate how many were put to the rack, burned, and otherwise maltreated as possessed of the devil or as witches—how many were called prophets or saints.

As late as the last quarter of the last century the insane, when not starving or neglected, were for the most part confined in jails and poor-houses or kept in chains. In Scotland a farmer reputed to be as large as Hercules was said to cure them by severity. In England the practice of exhibiting the inmates of Bethlehem Hospital (Bedlam) to the populace for a small fee was given up only in 1770. In Paris a few of the insane were treated in general hospitals, and the asylums were considered as receptacles for chronic cases, where the attendants, often convicts serving out their time, were allowed to whip them. Van Helmont recommended the sudden immersing of the insane into cold water and keeping them

there for several moments—a remedy brought even to this country. Rush says, as late as 1812, that by the proper application of mild and terrifying modes of punishment (the strait waistcoat, the tranquillizer chair, privation of customary pleasant food, pouring water under the coat-sleeve so that it may descend into the armpits and down the trunk of the body, the shower-bath continued for fifteen or twenty minutes, and a resort to the fear of death) chains will seldom, and the whip never, be required to govern mad people. The intelligent ideas of the Egyptians, Greeks, and Romans regarding insanity were degraded first by the Jewish, and then by the Goth and Vandal, influences in Europe, until, after sixteen centuries of perverse teaching, the stimulus given to all medical work by John Hunter and Bichat, and to humanity by John Howard, prepared the way in France for the philosopher-physician Pinel and his pupil the clinical observer Esquirol. In Italy, Chiarruggi; in Germany, Langemann; in England, Tuke; in America, Rush,—began the reform. Up to that time the metaphysicians had nearly usurped the study of insanity. Hospitals for the treatment of curable mental disease were built in Germany besides the asylums for the chronic insane, but still sudden plunges in water, rapid whirling around, and all sorts of shocks and surprises formed a part of the treatment, while Heinroth, Pinel's leading pupil in Germany, thought that all insanity began in vice, that its source was a conscious neglect of God's will, that its best treatment consisted in a pious life, and the only means of prevention to be in the Christian religion. From that time to this, especially since the metaphysical theory of insanity was abandoned, and more particularly during the last quarter of this century, during which the theory of physical disease as the basis of insanity has prevailed, there has been a great and rapid advance in our knowledge of the pathology and treatment of the diseases of the mind, so as to place them beyond the pale of mystery, but on the same footing with other diseases, to be treated on the general principles of common sense and medical science.

PREVALENCE.—It would be idle to attempt to say what proportion of the population was insane at any time or in any country of the world until the most recent years. In Massachusetts in 1820 there were under custody in the one insane asylum in the State 50 patients, or 9.55 in each 100,000 of the population. This number had increased to 11.34 to every 100,000 people in 1830, 61.99 in 1840, 84.97 in 1850, 97.90 in 1855, 122.17 in 1860, 121.24 in 1865, 134.83 in 1870, 138.50 in 1875, and 177.67 in 1880, in six State, one county, one city, one corporate, and six private asylums. The number of the insane in asylums had increased sixty times, and the rate proportionately to the population had augmented more than eighteen times.

In the United States, even after due allowance for the fact that the enumeration of the insane was quite complete for the first time in 1880, the following table shows a recent large increase in their numbers. Of the 91,997 insane reported in 1880, there were 40,942 in lunatic hospitals, 9302 in almshouses without special departments for the insane, and 417 in jails. There are no statistics of the insanity prevalent among the 265,565 Indians living in tribal relations by the enumeration of 1883.

Census of the United States.

Population.

Year.	Total.	Native.	Foreign.	White.	Colored.
1860	31,443,321	27,304,624	4,138,697	26,922,537	4,441,830
1870	38,558,371	32,991,142	5,567,229	33,589,377	4,880,009[1]
1880	50,155,783	43,475,840	6,679,943	43,402,970	6,580,793[2]
		Insane.			
1860	24,042	17,399	5,784	23,276	766
1870	37,432	26,205	11,227	35,610	1,774
1880	91,997	65,651	26,346	85,840	5,998
		Idiotic.			
1860	18,930	17,685	1,125	16,952	1,978
1870	24,527	22,882	1,645	21,324	3,188
1880	76,895	72,888	4,007	67,316	9,490[3]

Insane and Idiotic Population in the United States by the Census of 1880.[4]

	Total.	Native.	Foreign.	White.	Negro and Mixed.	Native White.	Foreign White.
Insane	91,997	65,651	26,346	85,840	5,998	59,600	26,240
Idiotic	76,895	72,888	4,007	67,316	9,490	63,314	4,002
Of unsound mind	168,892	138,539	30,353	153,156	15,488	122,914	30,242
Population to 1 insane	545	662	253	505	1,097	618	250
Population to 1 idiotic	652	596	1,666	644	693	581	1,642
Population to 1 of unsound mind	297	314	220	283	425	299	217

In England and Wales in 1860, with a population of 19,902,713, there were known to the lunacy commissioners 38,058 persons of unsound mind, including the insane, idiots, and imbeciles, or 523 persons to 1 of unsound mind. In 1870 this number had increased to 1 in 411. It seems by the census of 1871, however, that there were 39,567 insane and 29,452 idiots and imbeciles, in all 69,019 of unsound mind, or 1 in 330 of the population. In 1880, with a population of 25,708,666, there were known to the lunacy commissioners 71,191 persons of unsound mind, or 1 to 362 of the population. The census returns of 1881 are not available. The most recent statistics in Ireland indicate 1 person of unsound mind to each 260 of the population by the census, and in Scotland 1 in 362, according to the returns (not complete) to the lunacy commission.

In the following list, after the original States, of which Vermont, Maine, and West Virginia were parts later separated, the others are given in the order of their having been admitted as States to the Union, and finally the eight Territories. The States maintaining slavery up to the time of the civil war are printed in italics. The large proportion of insane persons in the District of Columbia is due to the fact that the gov-

[1] Unknown, 55. [2] Unknown, 148. [3] Unknown, 1.

[4] Total population, 50,155,783; native, 43,475,840; foreign, 6,679,943; white, 43,402,970 (unknown, 148); negro and mixed, 6,580,793; native white, 36,828,640; foreign white, 6,574,330; civilized Indians, 66,407; Chinese, 105,465. Among the Indians there were 53 insane, 84 idiotic, 137, or 1 in 485, distributed over 30 States and Territories; among the Chinese, 105 insane, 5 idiotic, or 1 in 959.

ernment hospital contains so many officers and privates who really belong to the several States; and in California the insane hospitals have been used to a considerable extent by the adjoining States and Territories.

By the United States census of 1880 there was 1 person of unsound mind (insane and idiotic) in the United States to each 297 of the population; in the *District of Columbia*, 1 in 169; Connecticut, 1 in 245; *Delaware*, 313; *Georgia*, 373; *Maryland*, 294; Massachusetts, 249; New Hampshire, 197; New Jersey, 326; New York, 251; *North Carolina*, 270; Pennsylvania, 289; Rhode Island, 301; *South Carolina*, 368; *Virginia*, 290; Vermont, 182; *Kentucky*, 261; *Tennessee*, 259; Ohio, 232; *Louisiana*, 457; Indiana, 239; *Mississippi*, 415; Illinois, 330; *Alabama*, 337; Maine, 226; *Missouri*, 324; *Arkansas*, 371; Michigan, 328; *Florida*, 433; *Texas*, 414; Iowa, 334; Wisconsin, 305; California, 286; Minnesota, 416; Oregon, 312; Kansas, 478; *West Virginia*, 263; Nevada, 1270; Nebraska, 561; Colorado, 1104; Arizona, 1263; Dakota, 839; Idaho, 836; Montana, 529; New Mexico, 434; Utah, 481; Washington, 412; Wyoming, 3464.

The proportion of the enumerated insane in asylums was—District of Columbia, 90.6 per cent.; Connecticut, 39; Georgia, 36.8; Maryland, 49.1; Massachusetts, 60.1; New Hampshire, 27.1; New Jersey, 67.8; New York, 57.2; North Carolina, 13.2; Pennsylvania, 36.1; Rhode Island, 57.3; South Carolina, 38.2; Virginia, 45.5; Vermont, 44.7; Kentucky, 50.7; Tennessee, 16; Ohio, 48; Louisiana, 44.9; Indiana, 26; Mississippi, 33.7; Illinois, 42.7; Alabama, 24.5; Maine, 26.1; Missouri, 40.7; Michigan, 41.5; Florida, 30; Texas, 22.3; Iowa, 37.8; Wisconsin, 48.6; California, 80.3; Minnesota, 61.8; Oregon, 65.5; Kansas, 31.9; West Virginia, 40.1; Nebraska, 38; Colorado, 34.3. In Arkansas and in Nevada there was no insane asylum in 1880, and in Delaware the insane were sent to a Pennsylvania asylum or to the almshouse. In the Territories the provisions for the insane are very incomplete.

The statistics just given indicate an enormous increase in the numbers of the insane who become a public charge, and the figures gathered from all countries prove conclusively that more insane people are known to be in existence proportionately to the population from decade to decade. The question naturally arises, Is insanity increasing as fast as appears at first sight to be the case, or is the increase apparent rather than real?

In the first place, the definition of insanity has so widened of later years as to include vastly greater numbers of the population than hitherto. The nice adjustment of social relations in a high order of civilization and greater medical skill make insanity easier of detection. Large numbers of persons now confined would have been considered far from being fit subjects for insane asylums a half century ago. Again, it is hardly a generation ago that we began taking proper care of the insane. Some States have hardly commenced yet, and even in the oldest parts of our country many of unsound mind are kept neglected and squalid in town almshouses or county jails. Wherever humanity has demanded improved accommodations for the insane they have accumulated enormously, from the simple fact that they are protected like children, and kept from dying of neglect, suicide, and exhaustion. In other words, science and humanity have prolonged their lives of illness, in some cases to as much as tenfold their natural length if they had been left to themselves, even where nothing can be done but to prolong their misery. The

more intelligent views now held of insanity as a physical disease rather than a family disgrace have led people to be less backward in reporting their insane relatives as such, while the increasing number of insane asylums and the growing confidence in them have brought many of the insane to notice who formerly would have been concealed in attics and cellars and never mentioned.

Whether or not more persons become insane each year in proportion to the population we have no methods of determining statistically. The mortality returns in Massachusetts for the last five census years show that the deaths from insanity, paralysis, apoplexy, softening of the brain, and unspecified diseases of the brain, including cephalitis, were 12.06 per 10,000 inhabitants in 1860, 14.39 in 1865, 14.95 in 1870, 16.42 in 1875, and 17 in 1880; which would probably indicate an increase, even after allowing for a considerable source of error due to inaccurate diagnoses, imperfect registration, and the influx of a large foreign population. It is claimed that the table on page 111 indicates a direct importation of insane persons from Europe. It is certainly a curious fact that the proportion of idiots and of the insane differs so little in the native population, and that among foreigners the idiots, who could not easily be sent here without being detected and sent back, are less than one-sixth of the number of their insane. But it is also true that the amount of insanity among strangers in a foreign land would naturally be greater than among those who are at home.

The prevalence of insanity as compared with other diseases at the present time may be fairly estimated from the statistics of Massachusetts for twenty years, where there were 604,677 deaths reported, including 2145 from suicide, 1995 from insanity, 1838 from delirium tremens and intemperance. The reported deaths from pulmonary consumption are fifty times as many as from insanity; from diarrhœal diseases, thirty times; from pneumonia, twenty times; from diphtheria, including croup, fifteen times; from scarlet fever, heart disease, and typhoid fever, each eleven times; from accidents, ten times; from cancer, five times; from childbirth and measles, each more than twice as many. The average death-rates reported from insanity per 100,000 inhabitants were 6.24 from 1861–70, and 7.12 from 1871–80, whereas the increase in the number of admissions to Massachusetts insane asylums in the twenty years was from 846 to 1610. The total number of insane people living in the State is less than the number of consumptives dying each year, and far less than the number of syphilitics.

CAUSATION.—It is clear that only a small proportion of the human race is liable to become insane, and one can only wonder that so few brains are overthrown by the multiplicity of causes in modern life which tend to disturb those "invisible thoroughfares of the mind which are the first lurking-places of anguish, mania, and crime." When we come to investigate the causes of mental disease, we find that they are of two kinds—remote or predisposing and immediate or exciting. They are also moral or mental and physical.

Among the predisposing causes heredity includes nearly or quite 75 per cent. of all cases, and is easily first; in considering which not only the immediate parents are to be taken into account, but also the collateral branches, grandparents, uncles, aunts, sisters, brothers, and cousins, for

hereditary insanity often skips one generation, and even appears, sometimes, first in the child, then later in the parent. An insane parent may have several children, of whom some may be exposed to the exciting causes of insanity and become insane, transmitting their disease, intensified or not, to their children, while others may avoid the exciting causes of mental disease, escape insanity, but yet transmit to their children a temperament predisposing them to disorder of the mind, which becomes the starting-point for actual mental disease as soon as the exciting causes are sufficient to develop the taint. If the exciting causes do not appear, however, in that generation, and wise marriages are made, the stock returns to the normal healthy standard and the disease disappears from the family. The same form of disease, too, is frequently not transmitted from parent to child or grandchild, but the neuroses, the psychoneuroses, and the cerebro-psychoses, the degenerative forms and the developed forms, are interchangeable. In the ancestry of insanity we find not only actual cerebro-mental disease, but epilepsy, brain disease due to syphilis, habitual drunkenness, any of the severe neuroses, apoplexy, pulmonary consumption, a closely-allied disease, and suicide. Very often the patient's friends think that there is no hereditary predisposition to mental disease, when the physician trained to study such cases would discover so strong a taint that he would not expect all of several children to escape insanity or some of its allied diseases even in a case where there had not been actual insanity in the family for several generations. For instance, where one parent is habitually using alcoholic liquors to such a degree as never to be drunk, and yet rarely quite himself, with the other a sufferer from one of the severe neuroses or cerebral diseases, a single child from such a marriage might stand a fair chance of inheriting and retaining mental health, but if several children should be born the chances that all would escape mental disorder are few. Again, if one parent were the victim of that intense intellectual strain and moral perversion so often seen in the eager pursuit of position and wealth, and the other, straining to keep up in the race, died early of pulmonary consumption, if there had been in the family cases of convulsions, chorea, apoplexy, or suicide, and if some member were hysterical or, without sufficient external cause, unreasonable, anxious, irritable, full of baseless fears, there might have been no insanity in the family, and yet a tendency to insanity might be transmitted to a considerable proportion of the offspring. On the other hand, the existence of a number of cases of insanity in a family may be due to external or accidental causes, and not indicate any general taint.

It is true that there are families in which insanity occurs where the allied neuroses do not often appear, and that various diseases of the nervous system may be frequent in a stock in which insanity is rare or absent. A person who has recovered from an acute attack of cerebro-mental disorder, if previously healthy and without hereditary predisposition to such diseases, may marry and not transmit to offspring either insanity or any of its allied diseases, while it is not uncommon for an individual seemingly the least liable to mental disease of a whole family to become insane, leaving several brothers and sisters with ill-balanced minds to get through life without breaking down, the morbid energy in the latter case expending itself in irregularities of conduct and of mental operations as fast as it is created, instead of being stored up for occa-

sional outbreaks. The degree to which insanity may be expected to follow any given antecedents can only be estimated very approximately, as the laws of heredity are very little known, and as there is a tendency in nature, so strong that it is constantly asserting itself, to return to the healthy type if it has a chance. But, in general, it may be said that the more individuals of both branches in whom insanity and its allied diseases are found, just so far may a larger proportion of the children be expected to suffer. The character of the particular disease or tendency to disease which is likely to develop from any given antecedents is still a very obscure matter. But the case is often clear enough to justify the remark that if childhood has any rights it has the right to be born healthy.

It must be admitted that geniuses and men of extraordinary talent appear in families tainted with insanity, and, indeed, that comparatively few families have had distinguished men among them for several generations without also showing a considerable number of insane members. Schopenhauer, "mad Jack Byron's son," and Johnson—who said that his inheritance made him mad all his life—are conspicuous examples of this well-known fact; and it is also observed that children and grandchildren of men distinguished for their great intellectual powers are subjects of degenerative mental disorders, or at least are of less than ordinary mental capacity and moral force. The sound and the unsound, too, may exist together in the same mind, each acting in certain ways independently of the other, and cerebro-mental disease not seldom occurs in persons of the highest intellectual attainments. Dean Swift, with his delusion that parts of his body were made of glass; Bishop Butler, tormented all his life by his morbid fancies; Chatterton, committing suicide in an attic; Rousseau, Tasso, Pascal, Comte, Beethoven, Charles Lamb, John Bunyan, the author of *Rab and His Friends*, Schumann, Shelley, Cowper, Swedenborg, and the epileptics Julius Cæsar, Mohammed, and Napoleon,—are only a few of the many illustrations of this law. In the descending scale from insanity we find also crime, drunkenness, and all sorts of moral perversions, which may be its antecedents also. Even a man's self-indulgences may be intensified as mental or moral degeneration in his children. The degenerative processes may go on where there is intellectual stagnation in small communities, with the vices of civilization, as well as in the crowd, producing a large class of persons for whom doctors have only compassion, considering them as invalids although treated as responsible by law and society.

It is difficult to estimate the influence of intermarriage as predisposing to insanity. The history of the early Ptolemies, of numerous savage or uncivilized races, and of many selected cases in the enlightened world may be quoted to show that it is often attended with no evil results; and there are other causes of degeneration in the royal families and aristocracies of Europe and in the cases of individuals where intermarriage of relations has resulted in deterioration of stock. It is, at all events, certain that marriages may be made so as to intensify morbid tendencies or so as to eliminate them—to produce a race of clear heads with sober judgment, or a race part of whom shall be great sufferers from neuralgia or mental pain; another part ill-balanced or explorers in fields of thought and action never tried by calmer intellects, perhaps with now and then at

long intervals a genius; a third part morbid and brilliant or stupid and imbecile; and still a fourth part near enough to the normal standard of mental health.

Undoubtedly, a great portion of the mental and nervous disorder commonly attributed to heredity is largely caused or aggravated by imitation and by vicious training of children. Schopenhauer says that the normal man is two-thirds will and one-third intellect—in other words, two-thirds made by education and one-third by inheritance. The intellect is often trained so as to enfeeble the will as well as to hinder the development of the physical man. Self-culture may so degenerate into self-indulgence as to destroy individuality and force; and mental health, as a rule, depends upon bodily health and the exercise of self-control.

In the uncivilized and half-civilized races of the world insanity is rare; in the early civilizations the insane perished from neglect, were hanged and burned, starved and died in famine and pestilence, and fell among the foremost in war. Some of the tribes of North American Indians shoot the insane, considering them possessed of evil spirits, while their white neighbors keep them in chains and squalor. Civilization brings better food, clothing, and shelter, and less danger from war, famine, and pestilence than savage or mediæval times. In the struggle for existence, however, physical strength no longer wholly wins the day, but also those faculties that involve great mental and bodily strain in mines, factories, crowded tenements, counting-rooms, offices; in the eager, excited over-study for prizes or rank in overheated, badly-ventilated schools, and, indeed, in every walk of life. People with marked neuroses, who would have gone to the wall a couple of centuries ago from want of physical strength, now support themselves by indoor light work, marry, and reproduce their kind. Minute division of labor involves monotonous toil and increases the impairment of the body's resistance to mental and nervous strain, and abuse of the nerve-stimulants tea, coffee, tobacco, or, worst of all, alcohol and narcotics, add to the evil. Degeneration due to the reproduction of poor stock is intensified by intermarriage. Luxury, idleness, excesses, syphilis, debility, drunkenness, poverty, disease, and overwork produce vitiated constitutions in which varying types of insanity appear in various nations and climates, but, so far as is known at present, not in very different degree under similar conditions. One of the great problems of the day is whether the many conditions incompatible with health in our crowded populations can be overcome so as to prevent the degeneration going on thereby.

In early life chiefly the degenerative or the hereditary type of insanity occurs, or some modification of it. The prevalent forms coming next are insanity of puberty and adolescence and the curious morbid psychological developments of lying, stealing, running away from home, all sorts of perversity of action and thought—impulse overpowering reason; often resulting in cure if wisely treated, but not seldom ending in various forms of so-called moral insanity, suicide, epilepsy, hysteria, primary insanity, prostitution, and offences against the laws. It is largely a matter of accident rather than a result of any established principle whether such boys and girls are sent to reformatories and prisons or to insane asylums. In the progressively advancing years of life organic

mental disease and the psychoneuroses are more common, the favorable or unfavorable type of which depends largely upon the degree of degenerative tendency in each case.

The exhaustion and the disturbed cerebral circulation arising from acute and chronic diseases, profound anæmia, or prolonged mental strain, associated with emotional disturbance from any cause, are among the antecedents of insanity. By our asylum reports ill-health is second only to intemperance as an exciting cause of insanity, and ill-health comes probably more largely from poverty than from any other direct cause. Diseases and accidents to the mother during gestation and injuries to the infant's head during parturition may reasonably be supposed to so affect the fœtal brain as to predispose to insanity in later life.

Of 18,422 admissions tabulated from reports of Massachusetts asylums, the prevalence of insanity by ages was approximately as follows:

Age.	Number of Admissions.	Population by Census of 1875.	Admissions per 100,000 of Population.
15 and under	366	312,103[1]	117
15 to 20	1,380	165,936	832
20 to 30	5,269	310,861	1695
30 to 40	4,632	240,966	1922
40 to 50	3,372	182,823	1789
50 to 60	1,797	126,430	1421
60 to 70	976	79,186	1106
70 to 80	382	38,283	997
Over 80	58	11,167	519
Age not reported	190	10,302	
Total	18,422	1,478,057[1]	1246
Total of all ages	. . .	1,651,912	1115

Of the 36,762 persons of unsound mind known to the English lunacy commission in 1859, there were 31,782 paupers, or 86.45 per cent., as compared with 4980, or 13.55 per cent., supported by themselves or their relatives. At the close of 1880, of 73,113 insane, 65,372, or 89.41 per cent., were paupers, and 7741, or 10.59 per cent., were private patients or self-supporting. The increase in the number of the latter from 1859 to 1883 was from 2.53 to 2.96 per 10,000 of the population, or 17 per cent., and of the pauper insane from 16.14 to 25.72, or 59 per cent., while general pauperism had rapidly diminished from 43.7 to 29.5 per 1000 inhabitants.

Similarly, of 9541 admissions to the State hospitals for the insane in Massachusetts from 1871 to 1880 inclusive, there were 4166 State patients, 4050 supported by cities and towns, and 1325 private patients; in other words, 86 per cent. were supported by public charity. Of 7963 admissions in the same time in which the nationality was stated, 4532 were natives and 3431 foreigners, respectively 57 and 43 per cent., whereas by the census of 1875 the natives were 74.64 per cent. of the population, showing more than twice as great a percentage among foreigners (chiefly laborers) as among natives. It is quite clear, therefore, that insanity is more prevalent, or at least increasing more rapidly,

[1] Excluding those under five years of age.

among the lower parts of the social scale than higher up; but it is impossible to say how many people have dropped from higher planes of life to lower.

Although women are probably more predisposed to insanity than men, and men more exposed to its objective causes than women, it is not certain that more insanity occurs in either sex. It is somewhat more prevalent in single and widowed and divorced people than in those married. The period of greatest prevalence is earlier in women than in men.

Insanity prevails not only at a time of life when the strain on mind and body is great, as is shown by the preceding table, but also in those places where the effort is most intense. That fact is well shown in the distribution of insanity over the State in the large and small towns, being greatest where the concentration of population brings with it extremes of poverty and wealth, as indicated by the following table, showing the number of admissions accredited to cities and towns in the McLean, South Boston, and State hospitals for the insane per 100,000 inhabitants from 1871 to 1880, the difference being exaggerated by the proximity of the hospitals and greater ease of commitment in the larger towns:

Number of Towns.	Population.	Inhabitants by Census of 1875.	Insane Patients.	Insane Patients per 100,000 Inhabitants.
341	The State	1,651,912	5689	344
1	Boston	341,919	1987	581
12	20,000 to 50,000 .	405,655	1486	367
42	5000 to 20,000 . .	367,957	1193	324
286	5000 and under .	536,381	1023	190

Of 9381 men and 9041 women admitted to our asylums, 7435 were married, 8193 single, and 1620 widowed or divorced. Of the 9381 males, 2215 were laborers, 1357 farmers, 313 clerks, 62 clergymen, 59 physicians, 43 lawyers, 201 students, of whom 114 were in school. Of 4673 females, 52 were school-girls.

The exciting or immediate causes of insanity are usually so complex that many of the statistics on that point conform to the preconceived views of the various compilers of them, as it is very easy to pick out a few from the many; but out of a large number of persons exposed to the alleged causes of insanity, one can never feel certain how many, nor indeed what, individuals will become insane.

It is not always easy to say how and when the furrows left in the brain by the mental and so-called moral causes of insanity have deepened into actual mental disease. Prolonged emotional and mental strain or severe mental shock often are directly associated with the immediate appearance of insanity. In armies, among people separated from their homes, in prisons, insanity oftener occurs than among the same people at home. Severe grief, disappointment, great and sudden joy or success, chagrin, fear, religious or political excitement, wars, pestilences, domestic or business troubles, poverty, and misfortune are among the commonly-reported moral causes of insanity, as are certain occupations involving steady and monotonous toil, especially if involving mental worry or necessitating unhappy relations.

Of the physical exciting causes of insanity, intemperance in the use of alcohol is easily first: luxury and excess in eating, drinking, and sexual indulgence, especially if associated with overwork or physical inactivity and mental anxiety, are also dangerous. It is difficult to estimate the influence of syphilis except when giving rise to coarse disease of the brain. Masturbation acts as an exciting cause, chiefly by creating a morbid psychical state and by exalting the sensibility of the nervous system, but probably not often, even with the young. Injuries to the brain and nervous system are usually slow in their operation, unlike the severe mental shock which is at once followed by insanity. Pain also, if intense, like great loss of blood, acts slowly by wearing out the powers of resistance, or rapidly by producing delirium.

A relation between pulmonary consumption and mental disease is frequently observed — partly, perhaps, due to general anæmia, in part to circulation of diseased blood in the brain, and partly from tubercular deposits. Other diseases act directly upon the brain and nervous system, as leptomeningitis, pachymeningitis, sclerosis, capillary aneurisms, embolisms, cerebral hemorrhage, tumors, disease of arteries, syphilis, caries, exostosis, abscess, internal otitis, sunstroke; still others by disturbances in the cerebral circulation, as diseases of the heart and kidneys; others by vitiating the blood circulating in the brain, as in the acute stage of febrile disorders; others in some general unknown way, as chorea, hysteria, epilepsy, gout, rheumatism, malaria, pneumonia; and still others during the period of convalescence or of general exhaustion, which is often associated with infectious diseases or chronic disease attended with general anæmia. The more violent and curable psychoses occur at the height of acute diseases, those of longer duration and of less favorable result during convalescence. Among other recognized causes are prolonged and obstinate dyspepsia, the psychological changes, if morbidly developed or attended with accident, at puberty, during pregnancy, at childbirth, during the puerperal state or lactation, and at the climacterium, and rarely various affections of the abdominal and pelvic organs.

Chronic alcoholism produces disease of the small blood-vessels of the brain and the consequences of that condition, causing insanity in a considerable proportion of cases, and almost always some mental impairment. Insanity occurs under conditions of cerebral hyperæmia and of cerebral anæmia, although their relation as cause and effect is very obscure. The habitual use of hasheesh gives rise to a disagreeable form of dementia, and so does opium, but more rarely. The effects of poisoning from iodoform, lead, mercury, bromide of potassium, hydrate of chloral, belladonna, tobacco, when reported as producing insanity, are usually transitory.

Cases have been reported of two persons being exposed to the same causes and having similar attacks of insanity (folie à deux), and also of folie induite or folie communiquée, where several persons have adopted the delusions of a person of influence among them, one of the most remarkable instances of which was the case of the seventeen grammar-school-taught Adventists of Pocasset, who accepted the insane belief of their leader, Freeman, that, like Abraham, he had been commanded by the Lord to kill his child, that she was to rise on the third day after he

had killed her, and that he was to become a great evangelist. So-called epidemic insanity, choreomania, and demonopathy belong in this class.

From untrained, ill-balanced men and women, whose lives are ill regulated, the ranks of the insane are largely filled. Insanity is often the ultimate wreck of a life ill guided, directed chiefly by caprice and passion and weakened by indulgence. In that case it is, like much habitual drunkenness, as much a fault as a disease. The individual will not behave with decency and propriety for so long a time that, finally, especially after the age when the brain begins to fail, he cannot.

SYMPTOMATOLOGY AND COURSE.—The distinguishing symptoms of insanity are mental. In some forms of insanity they are mental only; in others these symptoms are associated with others, such as also occur in diseases not necessarily affecting the mind. The earliest mental symptoms are change of character, increased irritability, less feeling of accountability, a lower moral tone, moral perversion, diminished stability, loss of interest, lessened power of concentration and self-control, impulsive acts, anxiety or the opposite condition of mind, perverted or exaggerated force of the emotions, restlessness, apprehension, sleeplessness, impaired will, slight depression or barely noticeable exhilaration: things and persons seem changed in some vague, unexplained way. There is an alteration in the way in which the person is affected by his surroundings.

The next symptoms are more purely intellectual. Delusions are often at first based upon some fact, and are merged into insane delusions only as the mind, in becoming weakened, loses power of comparison and judgment. Often they arise out of the disordered condition of mind. Hallucinations of any of the special senses, illusions, perverted ideas, mental confusion, mental hyperæsthesia or anæsthesia, delirium, stupor, exaltation, depression, impairment or loss of memory, quickened or dulled conception and perception, increased or diminished intellectual activity and acumen, distorted association of ideas, imperative conceptions, all sorts of anomalies of consciousness and free will, uncontrollable and uncontrolled insane impulses, are common. The intellectual and moral symptoms appear nearly or quite together in very acute disease, and they together increase in intensity, and finally entirely control the individual. Many of the insane recognize the fact of their insanity. Some of them understand the nature of their disease quite well, discuss their cases intelligently, and frequently ask why they, automaton-like, are impelled by a force which they cannot resist to constantly do things which their intelligence and better nature condemn. Not a few are confined in places of safety by their own preference.

The physical symptoms of insanity are perverted sensations of almost every conceivable kind, resulting in depraved instincts and acts, psychomotor excitability, convulsive action, choreic movements, uncontrollable muscular agitation (springing, shouting, swearing, dancing, running, destructive tendencies, etc.), elevation or depression of pulse, respiration, or temperature, loss of appetite, digestive disturbances, pain, fever, tetanic and cataleptic rigidity, paralysis, tremor, ataxia, epileptic seizures, convulsions, muscular contractions, increased or decreased secretions and excretions, disturbances of general nutrition.

The course of the various mental diseases is to a great extent chronic, some forms being incurable from the beginning, others curable to such

an extent that of recent cases from one-half to nine-tenths recover, of whom a considerable proportion remain well to their death. The duration of the mental diseases is from a few days to a lifetime, sometimes not even shortening life. The termination is oftenest in incurable chronicity or dementia, less often in permanent recovery without recurrence, and still less often in death from the first attack. Unfortunately, the essentially incurable and the curable forms of mental disease are classed together in statistics of insanity. While many types are absolutely fatal or certain to end in hopeless chronicity or dementia, others tend to recovery. In some forms relapses and recurrent attacks are to be expected : in others they seldom occur. In many cases there is no more probability of transmission to children than in Bright's disease, and no more likelihood of subsequent attacks than in typhoid fever.

MORBID ANATOMY AND PATHOLOGY.—It is thought by the best observers that insanity depends upon a functional brain disturbance, or at least upon a disordered condition which it is beyond our present power to discover, and that the normal working of the mind depends upon a brain healthy to such an extent that its millions of functional activities, in their endless relations to each other, preserve a state of equilibrium ; or, in other words, that the higher centres maintain their power of control over the lower. It is doubtless true that this relation depends in general upon a healthy brain, but it is not yet known to what extent. Disease of the brain or its membranes, apparently slight, often seems to cause insanity, and often there is marked disease without insanity. We certainly cannot place all the pathological conditions found in the brain of a person dying insane in direct causal relation to his insanity. The anæmia observed by Meynert in melancholia and the hyperæmia of maniacal excitement, even if proved to be universal in those conditions, may be only symptoms of the underlying disease or caused by it. It is certain that there are indications of as great anæmia or hyperæmia in other states without insanity.

Insanity in its initial stage does not, as a rule, involve a recognizable deviation from the normal structure of the brain, and the patient may die before such pathological changes are so manifest that we can detect them. But if the disease has been of long standing, in the majority of cases the brain shows evident marks of disease, and there may be found no striking indication to the naked eye of deviation from a healthy condition, when a microscopic examination reveals signs of advanced cerebral disease. The limited knowledge of the cerebral structure and function which pathologists possess, and the consequent difficulty in detecting changes from the healthy state, indicate that the failure to find them is attributable in not a few instances to the fault of the investigator rather than to the nature of the disease. Certain it is that the better acquainted we have become with the anatomy of the brain and with its functions and sensible qualities, and the more thorough and painstaking we have been in our examinations, the rarer it has become to find a case of insanity where no organic changes are observed after death, although it is true that we do not understand all the relations between these changes and the symptoms observed during life.

A large abscess of the brain, a hemorrhage, a tumor, or a wound of the cortex or other portion of the brain, various degrees of inflammation,

meningitis, are sometimes followed by insanity and sometimes not; and we do not yet understand the reason for the difference. Indeed, nearly every pathological condition of the brain known in insanity—in kind, if not in extent and degree—may be found in diseased or injured brains where there has been no mental disease in consequence. There is only one disease, general paralysis of the insane, in which the morbid appearances discoverable after death with our present knowledge bear a definite relation to the most constant manifestations during life. And yet, with pathological changes so similar that we are not able to detect their essential difference, the mental symptoms of the first stage of general paralysis may be most various. Rosenbach has found in the brains of starved dogs and guinea-pigs as extensive changes as in well-marked primary dementia, in which the pathological conditions are more extensive than in any other form of acute insanity.[1] That is to say, when we have discovered and described all the morbid appearances in the brain of an insane person we have taken only the first step in accounting for his insanity.

The localization of many of the cerebral functions, the discovery of a psychomotor tract, and the constant accessions to our knowledge of the physiology of the brain are throwing much light on the subject. But all efforts to localize the intellectual and moral functions of the brain, except generally to agree with the teachings of a century ago and to place them for the most part in the anterior and antero-lateral portions of the cortex, have thus far failed of success, the most careful observers still thinking that local lesions when apparently causing insanity do so by injuring the action of the brain as a whole, and not of any particular part.

In some cases of insanity, with never anything like acute disease, where death occurs from the weakness of old age or some intercurrent malady, the brain does not present any recognizable difference from those of sane people whose brains have worn out with their bodies. In those forms of mental disease where changes are found, the most important and constant are in the cortex of the brain, especially in the fore, upper, and middle parts of the periphery, involving usually also the membranes. In beginning acute mania the condition of the blood affecting the brain or the pathological changes are probably as nearly identical with those in the acute stage of pneumonia, certain forms of typhoid fever, cerebro-spinal meningitis, and other diseases as the symptoms of the mania are now and then difficult to differentiate from those of the other diseases just mentioned. In rheumatism, syphilis, malarial poisoning, and Bright's disease with mania we find no distinctive pathological conditions to account for the maniacal symptoms.

If asked whether there is a fixed lesion of the brain or any of its parts corresponding to given psychological changes, we should be obliged to say no, except in the case of incurable dementia. If asked whether there are important morbid changes corresponding with all cases of insanity, we can only say yes, sooner or later, in the majority of cases, and that there are certain destructive lesions, chiefly inflammatory, atrophic, and degenerative, which invariably mean marked deterioration of the mind. As regards diseases of other organs than the brain, the insane, like the sane, die of all of them, and in especially large numbers of pulmonary consumption.

[1] *Centralblatt für Nevr. Psych. und ger. Med.*, 1884, p. 33.

Insanity may, both in its acute and chronic form, be the result or symptom of simple anomalous excitation or nutrition of the brain or of inhibition of some of its portions, without any change in its gross appearance which can be detected by our present methods of research. In the majority of cases there are found diseased conditions which become more manifest the longer the duration of the disease, appearing for the most part in the blood-vessels, pia mater, and cortex of the brain, but also in the medullary portion, many of which are recognized only in their late stages. In the functional mental diseases there is no characteristic lesion of the brain as yet recognizable, even in the latest stages, more than is to be found in the brains of persons dying from other causes. When apparently local injuries or diseases cause insanity, they probably do so through a general disturbance of the brain or through diffuse disease resulting therefrom and for the most part affecting both hemispheres. The molecular, chemical, anatomical, physiological, pathological, or physical changes in the brain which give rise to insanity, and their relation to the grosser pathological conditions of the brain, are still not clearly made out.

In terminal dementia, especially in the last stage of paralytic dementia, nearly every tissue and organ of the body may be found to have undergone pathological changes, of which by far the greater portion is secondary to disease of the brain; and it is impossible to say how much of the brain lesions in these and other conditions of mental unsoundness is secondary to the disease or an accidental complication.

Diagnosis.—In the diagnosis of insanity the physician assumes a responsibility for which he is liable under the common law. It is important, therefore, to avoid mistakes as far as possible. In the majority of cases the patient's unsoundness of mind is evident before he is brought to the doctor, but in not a few the symptoms are obscure, and they are often rendered more difficult of correct understanding and appreciation by the deception or reticence of the patient and by the prejudices of his friends.

First, before seeing the patient it is well to get from his family, friends, and physician a full knowledge of his natural state, all the facts known to them relating to strange behavior, delusions, etc., as they give most useful hints with regard to the method of examination. Apparent familiarity with an insane person's delusions will often secure their immediate acknowledgment. In a case of any obscurity or where there is doubt that other causes than insanity may have produced the unusual behavior, and particularly if any legal steps are to be taken regarding guardianship, restriction of liberty, commitment to an asylum, validity of wills and contracts, capacity to manage property, marriage, etc., it is imperative that both sides of the question be fully heard before any positive opinion is given. After the patient's confidence has been gained in general conversation, during which his appearance, manner, and mental condition as to intelligence, coherence, memory, judgment, perception, and capacity may be noted and compared with his normal standard, he should be examined carefully for any external evidence of lack of development or of injuries to the head. As in all other diseases, the condition of every organ of the body should be noted; a complete diagnosis should be made. The expression of the face often indicates such excessive excitement, gloom, stupor, suspicion, or fear as must be due to insanity alone.

Throughout the examination the questions and manner of the physician should be such as to avoid suggesting unpleasant ideas or associations to the patient. The matter of suicide should never be first mentioned by the questioner, and not seldom he does best who listens most and lets his patient disclose his morbid ideas and impulses, as he will frequently be led to do, if at all, by the manifestation of interest and sympathy, and of knowledge of the symptoms of the disease in hand, on the part of the physician. He often gets enough for his purpose without getting the whole story, upon which it sometimes does harm, or at least is not best, that the patient should dwell. In the diagnosis of mental disease, however, as well as in estimating responsibility, the fact must be borne in mind that a controlling delusion may be concealed for months or even years, and that the symptoms and mental condition of insane people vary so much at different times that it may be quite possible to get distinct evidence of unsoundness of mind at one time and not at another. The power of self-control is also liable to the same variation or alternation.

If the patient has no reason for simulation, it is commonly best to tell him the object of the examination. The family history should be learned from others, as questioning the patient on these points is apt to put him in a train of thought unfavorable to a hopeful view of his own case. After full personal questions concerning himself and his environment, one can usually tell whether there are unreasonable suspicions, violent impulses, perverted feelings with regard to his family, delusions, hallucinations, or illusions. A delusion's existence must often be accepted, however, from the behavior of the patient and from the statements of those about him. Hallucinations of hearing must sometimes be inferred from the attitude of listening to imagined voices; and prolonged observation under circumstances such that the patient does not know that he is watched will often settle the question of his insanity when other means have failed. A careful examination should, of course, be always made for the physical and rational signs of disease. In the differential diagnosis care must be used not to mistake for insanity the acute diseases typhoid fever, meningitis, smallpox before the period of eruption, pneumonia, cerebro-spinal meningitis, narcotism or delirium from drugs, and alcoholism—errors which have been made, and which can be avoided by deferring one's opinion for a sufficient time.

The detection of simulation is more difficult, especially as the insane sometimes feign insanity for a purpose, or, on the other hand, accuse themselves of wrong acts which they never committed. In general, it may be said that sane persons pretending to be insane very much overdo their part, do not make their symptoms conform to any recognized type of disease, and have a strong motive for their deception, as well as for the act for which they wish to be considered irresponsible. Their insanity first appears after the deed; they are exhausted by their efforts to seem mad, and appear quite sane if watched when they think that they are unobserved. A crime performed without accomplices, with no plan or a silly one for escape, and with no sane motive, is usually itself evidence of insanity. On the other hand, people partly demented by chronic insanity often commit crimes with all the method and motive of the criminal. In not a few cases, especially when the fact or not of impaired intellect cannot be decided by comparison with a previous condition, the question of

insanity, or at least of responsibility, will be beyond human wisdom. A correct diagnosis can, of course, not be made without a familiarity with the various forms of mental disease; and insanity is now so well understood that a sufficient examination of an insane person should develop the clinical history of some known type of disease in nearly every case.

Little has been said of the physical evidences of insanity, because there is little to say. Conditions of mental torpor, depression, and excitement are associated with the physical manifestations which we would naturally expect in those mental states. Coarse brain disease with insanity or without may have identical physical signs; paralytic dementia is the only disease in which corporeal indications really assist in forming a diagnosis.

A family predisposition to mental disease does not materially affect the question of fact whether a given individual is insane or not, except that in a doubtful case it adds to the probability of insanity, and is thus far a factor of importance as corroborating other evidences of an unsound mind.

PROGNOSIS.—The prognosis in insanity depends first upon the type of disease, mania, melancholia, and some forms attended with confusion and stupor being the most curable; the forms attended with systematized delusions or with periodicity which is not dependent upon menstruation, folie circulaire, and moral insanity rarely so, and the organic brain diseases, congenital insanity, and confirmed primary delusional insanity (monomania) hopeless. The acute forms are far more curable than those of a subacute type: 60 per cent. of the cures in insanity occur in the first half year of treatment, 25 per cent. in the second half, and 2.5 per cent. in the second year, roughly speaking. In chronic cases a reported cure is most commonly only a remission, and after several years of existence insanity is generally incurable, although rare cases of cure in mania have been reported after even from six to fourteen years of treatment, and in melancholia after twelve years. So long as there is no permanent dementia and there are distinct intervals of mental clearness, no matter how short or how far apart, there is hope of final recovery in the curable mental diseases.

People of sound families, with insanity of an acute type arising from physical causes, often make such speedy and complete recovery as to justify their subsequent marrying if they wish, while those of unstable nervous organization recover more slowly and oftener relapse. Insanity from so-called moral causes, too, is of more unfavorable outlook than if from the physical causes, if we exclude organic brain disease. A person with good physical education, excellent mental training, and self-control is more likely to get well than one with a vicious bringing up. The ages of maturity and middle years are most favorable to complete recovery. In women there are more first cures and more relapses, according to Krafft-Ebing. In general, the mortality of the insane in asylums is about four times that of the sane of all ages, or approximately six times that of the sane at the ages when insanity prevails.

Prolonged stupor, profound incoherence, loss of memory, and moral debasement are unfavorable symptoms, unless quite acute, of short duration, or occurring after the rapid subsidence of acute symptoms. Hallucinations of hearing, and to a less extent of sight, impulses to violence, and especially systematized delusions, are grave indications. Paralysis,

epilepsy, and convulsions usually mean chronicity or death. Extensive disease of the heart, kidneys, or lungs, confirmed dyspepsia, especially of alcoholic origin, and a previous history of syphilis, seriously affect the prospects of recovery. If there is actual cause for self-accusation, if the knowledge of wrong-doing is added to the morbid mental state, the period of convalescence is apt to be much retarded, or even recovery is prevented, by the difficulty of establishing a healthy reaction. Even an irresponsible act is often magnified into so depressing an influence as to prevent restoration to health, as in the case of those who have injured or killed members of their family.

Of 9689 persons admitted into the Worcester Insane Asylum [1] during fifty years ending September, 1881, of whom 1083 had been in other asylums, 35.49 per cent. were discharged well, 26.61 per cent. improved, 17.71 per cent. not improved, 0.5 per cent. not insane, and 14.85 per cent. died. Of those discharged, 25.41 per cent. were readmitted, and of 798 discharged recovered, with regard to whom inquiries were made, 156 were reported well at the time of replying, 197 as having died sane, 30 committed suicide, 162 relapsed and died, 94 relapsed and were alive, 30 were in hospitals or almshouses insane, and of 129 no information was got. Out of 798, there were 316, or 39.6 per cent., known to have become insane again or to have committed suicide. Of 1966 second admissions, 668 recovered; of 607 third, 263; of 261 fourth, 119; of 132 fifth, 70; of 70 sixth, 42; of 48 seventh, 30; of 37 eighth, 21; of 30 ninth, 19; of 26 tenth, 15; of 23 eleventh, 11; of 18 twelfth, 11; of 15 thirteenth, 10; of 12 fourteenth, 8; of 8 fifteenth, 5; of 4 sixteenth and seventeenth, 3; of 4 eighteenth, 2; of 2 nineteenth, 1, who was admitted and discharged well twenty-three times.

Thurnam's statistics, that one-half of the recent cases of insanity treated in asylums recover, and that of the recovered only two-fifths remain so, receive constant confirmation. There is a considerable proportion of the inmates of asylums whose brain-condition is so unstable that they come in and go out frequently. Their brains are unstable, too, in the little affairs of life, and many of the nominally cured remain comfortable only by being shielded from sources of physical wear and mental worry. It is impossible to get statistics of the curability of mental diseases properly treated outside of asylums, but the results would probably be more favorable than those just quoted, partly from the greater chances of cure in the mild cases and in those acute cases which can be kept at home, or at least do not require hospital treatment.

It is difficult to form an opinion as to the probability of subsequent attacks in those who have recovered from any of the curable forms of mental disease. The same constitution, of course, remains as that which predisposed the individual to the first attack, and no one can look far enough into the future to predict the influences which will be brought to bear upon any given person for a considerable period of time. If they are favorable for preserving mental health, the chances of escaping mental disorder in the future are very much greater than if the occupation which must be pursued and the life which must be led predispose to bodily exhaustion, anxiety, and brain-worry. If the disease first appeared under slight exciting causes, it will not often be possible to

[1] *Forty-ninth Annual Report*, including tables by John G. Park, Medical Superintendent.

avoid similar conditions again, and some forms of insanity are characterized by relapses and recurrent attacks.

Of the persons reported recovered from mental disease, a large proportion fail to recover in the sense of being fully themselves again. There is left some change of character, no matter how slight, some moral perversion, irritability, instability, impaired will, lessened power of self-control, diminished mental capacity — some lowering of the intellectual or moral standard, some deterioration of some kind.

TREATMENT.—Not long after Leuret recommended and practised severe discipline in the treatment of the insane a case was reported at the Medical Congress in Naples (1845) where douches, setons, blisters, bleedings, internal medication, shocks, terror, harsh discipline—nothing succeeded in restoring to sanity a woman become insane three months after her confinement. There probably are places where similar methods are practised at the present day, and yet it is not unreasonable to suppose that the very treatment used is sufficient to render incurable patients who might otherwise get well. The modern management of mental disease by rest, diet, baths, fresh air, occupation, diversion, change of scene, no more medicine than is absolutely necessary, and the least restraint possible—in a word, improving the patient's general condition, meeting the indications of his disease, diverting his mind from its morbid thoughts, or putting the brain in a splint, so to speak, as each case demands—gives much better results, the value of which is much diminished by the enormous increase in the size of our asylums and the great aggregation in them of diseased persons in all stages of insanity.

In twenty American asylums, the statistics of which have been analyzed by Pliny Earle in his paper on the *Curability of Insanity*, the average diminution of reported recoveries for about twenty-five years has been from 46.08 to 34.26 per cent. annually of cases admitted, and in the Massachusetts State asylums from 25.95 to 22.25 per cent. of 3371 persons admitted from October, 1879, to October, 1882. The prospect of treatment of insanity does not, from these figures, look very hopeful, and it must be conceded that there is in the proportionate number of reported recoveries a decrease which it is important should be explained. It is undoubtedly true that a larger number of the chronic and quiet incurable insane are sent to the asylums now than formerly, thereby diminishing the curable proportion. The character of the asylums, too, has changed from being small, easily-managed institutions to overgrown affairs, crowded with so many incurables that the duties of the superintendents have become largely administrative, and the medical treatment of the sick has been driven to a subordinate position. Medical officers, too, are more cautious in using the word cured after experience has shown them how many reported cures are only remissions.

In treating insanity, even more than any other disease, the fact must be borne in mind that one is treating a diseased person; and indeed it is often necessary to treat a whole family of persons predisposed to insanity in giving directions for one actually insane. There probably has been no time during the last quarter of a century when there was more uncertainty in the minds of the medical profession regarding the best treatment for patients suffering from curable mental diseases than at present. Twenty-five years ago the almost universally-accepted practice was to send

them to an insane asylum with as little delay as possible, without much regard to the character and duration of their disease. Twenty years ago, in the medical school the professor of obstetrics advised sending all well-marked cases of puerperal insanity early to the hospitals for the insane, and only a few years later Godding, then superintendent of the asylum at Taunton, advised that patients with puerperal insanity be kept at home until every available resource but the asylum had been tried without success.[1] Meynert lectures to his classes in Vienna that in every case there is a disadvantage in sending curable insane persons to asylums, although it is often a necessity to do so. Maudsley thinks that a large proportion of the curable insane can be treated to best advantage either at home or in small private asylums or houses; while Bucknill says that by home treatment more cases would be cured than with our present methods. The late Isaac Ray summed up his vast experience in the treatment of the insane by saying that it cannot be shown that the introduction of insane asylums has added anything to the curability of insanity, much as they are to be praised from the humanitarian point of view. According to the statistics of Pliny Earle—to which the only objection we can make is that they are so exhaustive and conclusive that we cannot controvert them—the permanent curability of mental diseases in asylums for the insane is not only small, but decreasing.

Part of the results obtained by Earle may be due to the fact that curable cases are more treated at home now than formerly, that the degenerative types of insanity are more common, and that in our cleaning up and civilizing processes we are not only driving out filth diseases, but letting in disorders due to greater efforts and more intense struggles for the kind of existence which modern life demands. But it is also true that in enlarging our asylums, as we have been compelled to do, we have lost something in personal care of patients, and that we have increased the depressing influences of large masses of sick people to such an extent as to involve serious disadvantages in their treatment. It is a matter of common observation that some insane people do well at home, others away from home, and others in asylums—that some do badly in asylums, and quickly get well if discharged, and that others, after continually going down at home, immediately improve upon being sent to an asylum. There seems, however, to be no fixed rule in individuals, and certainly there is very far from unanimity of opinion among alienists generally as to the conditions for home treatment or removal from home or sequestration in asylums, except, of course, that few men of experience would take the responsibility of keeping out of asylums persons with alcoholic insanity or with delusions of persecution, or cases of violence and delirium, or any insane patients under conditions involving danger to the community or to individuals, although it is often a matter of extreme difficulty to decide when restraint becomes necessary or justifiable.

I have selected from a large number a few cases where I have acted contrary to the usually accepted views as to indications for removal from home, and with such success that I am led more and more each year to rather widen than narrow the lines within which home treatment seems to me desirable.

Case I.—Mr. ———, age 20, of sound constitution and without

[1] *Boston Medical and Surgical Journal*, vol. xci. p. 317.

marked hereditary tendency to disease, although several members of his family are people of very little force. The patient had masturbated in college, as many boys do, and was compelled to give up his studies upon his father's failure in business. An attack of slowly-advancing melancholia developed, for which he was sent to the farm of a relative in the South without improvement, so that he returned home at the end of a year in pronounced acute melancholia. He secreted himself in a marsh not far from home, where he was by accident found bleeding freely from the radial artery, which he had cut to kill himself. He had the usual delusions of the disease. He thought the world was all wrong, that he had committed great crimes—the unpardonable sin—and that there was nothing but destruction before him and his family. He was desperately suicidal. The circumstances giving rise to his disease and the associations of his delusions were entirely connected with his home and members of his family. His people could not afford to hire a nurse, but his three brothers and one cousin were only partly employed, and they agreed to take care of him. The treatment was tonic and supporting, with plenty of sleep, food and outdoor exercise, with careful attention to daily details of life, arranging it as to amusements, occupation, etc. etc. from day to day to suit his condition, and with absolute watchfulness day and night to prevent suicide. He remained in the home where his disease arose, and he was taken care of by the people most actively associated with his delusions. He made a rapid and perfect recovery, and is now very successful in his work as a professional man.

Case II.—Miss ———, age 35, a sound, healthy woman, without any known hereditary predisposition to disease. Without any assignable cause, except a moderate amount of overwork and steady home-life without sufficient recreation, she became very ill with acute melancholia, much mental confusion, very varied delusions that the world was all wrong, her friends distorted and changed, and herself so great a sinner that she could not escape everlasting damnation. Her most constant and distressing delusion was that people were constantly lying in wait to kill her and her mother and her sisters. When I saw her she was taking large quantities of hydrate of chloral and bromide of potassium, which were at once stopped. With plenty of food, fresh air, exercise, rest, malt, and cod-liver oil she slept well. She was first put under the care of a professional nurse, who was not liked by the family, and I then decided to let the mother and sisters assume full charge. She was watched with unremitting care day and night, and yet managed to make three attempts at suicide, which of course were not successful. She made a rapid and most perfect recovery, and is still perfectly well.

Case III.—A letter-carrier about 25 years old, without known hereditary tendency to disease, under-fed, over-tired, and worried, broke down with pronounced mania of the simple type, without marked delirium or delusions. He was much exhilarated, often excited, rarely noisy, and, as he had no delusions, he was not dangerous. He was somewhat troublesome, and I feared that his disease might become more active, and so I recommended his removal to an asylum, to which his friends fortunately refused to consent. He became progressively worse, but still not maniacal or delirious. He had no specific insane delusions, but he had a generally exalted notion about all the events of life and his own affairs. His

surroundings were not conducive to quiet, as he lived in the noisy part of the city, and his associations were those under the influence of which his disease appeared. But he made a most excellent recovery, and resumed his work with only a year's interruption.

Case IV.—A healthy young woman, without hereditary predisposition to insanity, confined with her first child. Her delivery was not attended with any especial difficulty, and she made rapid progress toward health and strength until the beginning of the third week, when a slight change of character was noticed which soon developed into active mania. She was delirious, profane, obscene, filthy in her habits, and filled with delusions regarding herself, her family, and her surroundings. She had a great aversion to her infant, and often did not know the several members of her household. Hers was as violent a case of puerperal mania as I have ever seen in an insane asylum. She was naturally not very strong, however, and people could always be near enough at hand to prevent her doing any harm to herself or others. Her infant was kept out of her sight most of the time for five months, and all of the time for many weeks. The usual treatment was adopted, an excellent recovery was made in six months, at the end of a year strength was restored, and the patient remains quite well now.

Case V. was quite similar to the last, except that the disease was melancholia, and that the patient had tried to kill herself and her infant before I saw her. She made a complete recovery. Both cases were taken care of in their own homes, and for the most part by members of their own families.

I have reported these cases with as little detail as possible to illustrate the point which I have insisted upon for several years, that many cases at least of mental disease are to be treated precisely like typhoid fever or rheumatism or a broken leg, so far as removal from home is concerned, and that home-associations are no more harmful in properly-selected cases than in pneumonia or phthisis. I do not mean, however, that the patient should not be under the most careful treatment. On the contrary, the little details of medical care are fully as important as in early Pott's disease or beginning inflammation of the hip-joint. But it is often difficult to decide what cases should be best treated at home, what by slow travel or removal to other places than home, and what in asylums.

The objections to asylum treatment, when it is not absolutely necessary, are very great. On the other hand, the advantages that asylums possess for supervision and control are so obvious that they must continue by far the best means of treating the vast majority of cases of incurable insanity, and a large proportion of those in which a cure may be reasonably expected. The exigencies of many cases demand them. If, however, it can be shown that the aggregation of invalids in them is unfavorable to the best chances of recovery, and if, as I think is the case, many of the restraints and restrictions now common in them are unnecessary — for many of the patients, to say the least — the deduction is clear that a change must be made in asylum construction and management to correspond to these views. A common depressing influence in the treatment of mental disease is the fact that the patient remembers some member of the family who has had to go to an insane asylum, and fears the same fate for himself, or after one commitment and recovery fears that he may

have a relapse and be obliged to enter an asylum again. I am quite sure that a considerable number of the recovered patients of insane asylums who commit suicide do so from this dread; which is not altogether unnatural, as the tendency there is downward, so that the patient, as he in the progress of his disease more and more loses self-control and power of decent behavior, is progressively dropped into lower wards, with more disorderly or demented patients, at a time when all the surrounding influences should be, on the contrary, of a tendency to lift up. On the other hand, many who recognize their infirmity wish to be taken away from old friends and associations, and prefer the seclusion of an asylum, which is their best home.

The more acute the disease, the more likely it is to be of not long duration, and, as a rule, the easier it is to treat it without removal from home, except in cases of great violence. The question whether home-influences are benefiting or injuring an individual patient must often be settled by experiment. It is a great comfort to many of the insane to see their friends, no matter how seldom, at times when they feel that they need their support and influence; and this is impossible unless the friends are near at hand. There are cases in which familiar scenes and faces and voices reassure the patient when delirium subsides, and during a short interval of comparative mental clearness their sedative influence is great as compared with the confusion and worry of trying to understand the new surroundings of a hospital ward or the sight of strange people and the sound of unknown voices. The mere fact of delusions being connected with the home-surroundings and members of the family is not so important as the character of the delusions; and the influence of the relatives is often most salutary, even when the patient has most distressing thoughts concerning them or even when he is too insane to be always sure of their identity. If the insanity arises in a violent emotional shock, and home sights and surroundings recall and arouse the mental pain, as is the rule in such cases, recovery usually depends upon removal from home. The matter of suicide where there are means of proper watching does not influence me in my decision, as I think that the dangers of self-destruction are fully as great in asylums as outside with sufficient care, whereas the stimulus to the patient to kill himself from both insane and sane motives is greater the more he is surrounded with depressing influences. On the other hand, it not seldom happens that the diversity of sights in the hospital, the routine, the varied events of the day, the amusements, the walks, the drives, even the discomforts and annoyances, serve to distract the patient's mind from his delusions better than the same result can be accomplished under the pleasant influences at home, while a natural feeling of self-respect prevents those who have power of self-control from giving way to their impulses before strangers, especially when they know that such conduct will take them to a lower ward with less agreeable associates.

There is no doubt, however, that home-treatment of the insane in the majority of cases is synonymous with neglect of all those minute attentions to details that make the difference between recovery and chronic mental disease. Home-associations often act upon the insane mind like frequent passive motion to a diseased or fractured hip; the relatives of the insane patient oftener than not share with him a common inheritance

of an unstable mental organization, and will not be judicious in their treatment of him, or they cannot be subjected to the risk of becoming insane themselves in taking care of an insane brother or parent; and it is seldom that a private house away from home can be converted into a hospital, as it must be for the treatment of an insane person. One of the greatest difficulties in the home-treatment of the insane is during the many months of slow convalescence, when it is difficult to prevent a too early resumption of cares or work or methods of life prejudicial to complete restoration to health; so that in that stage of the disease, if in no other, removal from the familiar and usual surroundings of the patient will usually be quite necessary. The small private hospitals, with all their many and obvious advantages, always have been, and inevitably must be, chiefly devoted to wealthy patients who wish for a home where they can have medical supervision, rather than curative institutions for any large number of persons; and there is not enough going on in them to sufficiently occupy the attention of certain curable patients who must be removed from home, although they are well adapted to those who need quiet and seclusion chiefly. The larger hospitals, with their large staff of skilled officers and nurses, and with all their appliances for recreation or rest, amusements or occupation, discipline or gentle support, must be our chief means for treating the insane. They are indispensable for a large number of the insane who are of such unstable mental equilibrium that a little over-exertion or a trifling deviation from a carefully regulated routine throws them off their balance; and they must be used, temporarily at least, for many of the incurable or partially curable insane who need a place and an opportunity to learn self-control and self-management. Enormous advances have been made in the construction and management of hospitals for the insane, more especially in the last fifteen years. We see it everywhere. But the greatest need, of opportunities to combine advantages of the asylum treatment with the benefits of home-comforts, to place sick people where the influences surrounding them will be healthy, and where there are not so many harmful as well as useless restrictions upon liberty, and so many morbid associations, is as yet entirely unfilled in this country. The question of the best, or even of an improved, organization for our insane asylums is too wide a subject to be discussed here. That our present system tends to make the medical staff narrow if they are appointed to their duties without previous broad training and experience or for political reasons, is a self-evident proposition; and yet there are manifest objections to just such a visiting staff as is customary in general hospitals.

As Maudsley says, squalor in an attic with liberty is better than being locked up in a palace with luxury. Many of the insane share that feeling with their sane brothers. To not a few it makes the difference between recovering their mental health and lapsing into incurable dementia. Many would voluntarily consent to remain in places less distasteful to them. If we could separate them into classes, as Mr. Mould[1] has done in England by buying or hiring ordinary dwellings one or two miles even from his asylum, we could have separate houses with open doors or shut, as the case demands, for those who require them, and reserve the

[1] *Presidential Address at the Annual Meeting of the British Medico-Psychological Society*, October, 1880.

associated halls and large buildings for a different class. Mr. Mould has not applied his own system to those cases which need it the most, the curable insane, except to a very moderate degree.

It is not often that the physician is called, or his advice heeded if given, in the early stages of mental disease, and the first symptoms are by no means easy to differentiate from the less harmful results of mental strain. If there be, however, sufficient loss of equilibrium to suggest the question of beginning insanity, it is of course better to take the safer way and recommend removal of all sources of irritation, and to advise rest, sleep, simple food, attention to the general laws of health, outdoor life, and change of scene for a sufficient length of time to restore the mental poise, avoiding narcotics and sedatives as far as possible, and keeping the patient with a safe adviser or within easy reach of one. In many cases, especially of young persons, this may involve a radical change in their choice of a profession and whole plans of life. If the question of marriage comes up in these cases before the physician as to preventing further developments of threatened disorder, it can only be said that what may be well for the individual is not always best for society. A few years' delay will usually give time for the question to settle itself.

When insanity has actually appeared the same rules should govern its management as in other diseases. If, like smallpox and diphtheria, it is a great source of danger to others, the patient should be put in a safe place; if, like typhoid fever arising from bad drainage, its cure depends upon the removal of a given cause, the patient must leave the infected locality or have the cause displaced; if, like rheumatism in a damp cellar, it can be treated successfully only under different conditions, the patient must be removed; and if poverty or other conditions prevent the best possible treatment, the next best practicable plan must be followed.

The first question which comes up in the care of the insane is with regard to removal from home and commitment to an asylum; and here a great many points must be taken into consideration. It is not always that a home can be accommodated to the use of an insane member of the family. There are not many in which there can be proper quiet and seclusion without depriving the patient of that abundance of fresh air and outdoor exercise which is so often required in treatment. Frequently those nearest to him irritate him to the last degree, or he has some aversion or delusion in regard to them rendering their presence injurious. If the delusions and impulses of a patient are not such as to endanger the lives of the household, his violence and excitement and uneasiness or melancholia may make life simply intolerable to his relatives, or his exactions may be exhausting to their strength and his constant presence a means of making still others insane. His noise may disturb a whole neighborhood. His vagaries may require control, his indecencies concealment, his enfeeblement help more than can be sufficiently given outside of a hospital, his general condition more judicious care than his friends can command, and his example may have a pernicious effect upon children growing up with an insane diathesis. In many people a long time insane much of their vicious conduct is due to habit or to tendencies which they cannot or will not control without the steady, kind discipline which cannot be got at home.

A man with delusions by virtue of which he thinks that some one is

plotting to ruin or kill him is apt to commit murder; a mother who believes that the world is going to ruin and her children to torture may be expected to put herself and them out of misery; a demented woman chops off her infant's head because its cries disturb her; and the maniac's delirium or epileptic's fury drives him into any horrible act. Such people need to be watched always by some person or persons fully able to prevent their doing harm, which in many cases can only be done, with any reasonable degree of liberty to the patient, in a hospital for the insane. If the danger is obviated by removal of certain persons—children, for instance—or if watching by nurses serves the purpose, and there are no other objections to such a course, there are cases in which the chances of cure are more if the patient remains at home whenever the disease pursues an acute course. Most of the insane, however, have passed the curable stage; the majority need the moral support and freedom from responsibility or the regular life and regimen of a hospital; and a large proportion of the cases following a subacute or chronic course must be removed from home. The expense attendant upon the safe treatment of mental disease in a private house is entirely beyond the means of most families, just as they cannot send their consumptives to Colorado or France, and so the hospital becomes a necessity. Except in dangerous cases, however, the hospital should never be hastily decided upon. A little delay does not diminish the patient's chances of recovery, and may show that the attack is only transient, whereas removal to a strange place might aggravate the disease and increase its duration. It is particularly important not to choose an unfavorable time to commit an insane person to an asylum, and thereby add to discouraging conditions already existing an additional source of despair at a time when every influence should be as elevating and cheering as possible. In most cases, especially if there is a suicidal or homicidal tendency, it is best, when removal to an asylum has been decided to be necessary, not to argue the question with the patient, but to explain why it must be done, and then do it without delay.

The law provides the methods of commitment to asylums. They are so different in the different States that they cannot be discussed here.[1] The one rule holds good everywhere, however—that it is far better to use force than deception in sending the insane from home to asylums, and that the cases are very few in treating the insane in or out of asylums where deception is either justifiable or wise. A second safe rule is that a person of unsound mind is always a source, immediate or remote, of more or less danger.

Commitment to an asylum means so much that safeguards against improper action should provide careful examination of the case by competent physicians, as little restraint as is required by safety, good medical treatment in the hospital, thorough supervision by experienced persons on the part of the state, safe-keeping of the dangerous patients, and easy removal of those who have recovered or who may be sent out to their own advantage. In too many States confinement in an asylum means that two physicians, or even one, who may know little or much of insanity, think it best, and removal depends upon the word of one man,

[1] An abstract of the various laws may be found in the appendix to the American edition of Clouston's *Clinical Lectures on Mental Diseases.*

the superintendent. Once in the asylum, the best practice of the present day should be followed—namely, to allow free communication and visits from friends until it is shown that they do harm, to multiply cheerful and natural influences to the last degree, to furnish rest, exercise, occupation, or recreation as each case requires, and to remove all that is morbid and disagreeable so far as that can be done. A permanent removal from the hospital should be insisted upon as soon as it is safe to complete the convalescence at home or elsewhere, and an abundance of fresh air, indoors and out, should be supplied as the best curative agent from first to last. Arguing, moralizing, cheering up, rigid restraint, disciplining, sedative drugs simply for quieting patients, and still more bleeding and blistering, are for the most part things of the past. Mechanical restraint is all but abolished in the best hospitals, and is used only so far as it is considered the best medical treatment. A prison-like appearance of the wards has been found to be not only quite unnecessary, but harmful.

In many cases of insanity I make the question of removal to a large hospital one of circumstances and of money. If separation from the influences under which the disease occurs is necessary, and that cannot be secured at home, I usually select, as the case demands and opportunity is afforded, a private house with good nurses, a small private hospital, or an insane asylum where the general influences are the healthiest, where the medical treatment is in accordance with the best modern principles, and where the construction of the hospital is most nearly adapted to the requirements of the present day. Accessibility to visits of friends and the family physician where they help in the cure, and remoteness from them when they do harm, are also points to be considered. In many cases where the illness is of long duration a change of scene and association will prove of great service, even from one hospital to another. The permanent settling down into the routine of hospitalism is especially to be avoided. Of course there are cases, or rather conditions, in which a change would be detrimental to the last degree.

The associations, surroundings, and influences brought to bear upon the patient—what has been called the moral treatment—are of the first importance in the treatment of mental disease, and diet and hygiene come next. Medicines are of use in properly selected cases. The appetite must often be stimulated, the digestion regulated, and various painful symptoms must be relieved, so far as possible, without a resort to internal sedatives and narcotics. Rest and sleep are essential to recovery, but every effort should be made to obtain them by judicious regulation of outdoor exercise and of quiet as each case requires, abundant non-stimulating food frequently given, fresh air, tonics, baths, and removal of sources of irritation. Stimulants will sometimes be needed to prevent excessive exhaustion. Seclusion in a room darkened or not is useful in some conditions of excitement, and not seldom distressing symptoms are relieved by the simple presence of another person or by the absence of certain individuals.

Drugs of sufficient strength and in such quantity as to produce quiet or sleep should be used only when absolutely necessary, and then for as short a time as possible. Their prolonged use is open to many manifest objections in all persons, and particularly in those suffering from mental disorders, inasmuch as with them large doses, if any, are commonly given,

and it is very difficult often, in the impaired state of mind of the patient, to get indications of symptoms which contraindicate the use of a particular drug or to learn when it is producing harmful effects. Tonics are often indicated, but should be used with discrimination, as some of them, especially those affecting the cerebral circulation, frequently produce disagreeable results.

After apparent recovery there should be a long period of after-treatment, which in most cases will be best met in rest or travel.

In the various forms of mental disease, through concentration of the mind on various delusions and by excess or deficiency in mental activity, the ordinary symptoms of physical disturbance or disease, independent of the insanity, are so much modified as to be often overlooked. It goes without saying that intercurrent diseases and distressing symptoms should be treated on the principles generally applicable to those conditions, so far as that can be done without aggravating the insanity. The usual treatment of pneumonia, for instance, may in an insane person provoke such determined opposition or so excite or aggravate delusions that, so far as the disease of the lungs is concerned, it may be better to let it take its chance, with good general care, including food, warmth, etc.

The conditions of cerebral hyperæmia require cold applications to the head, the wet pack, prolonged warm baths, a non-stimulating diet, and quiet. If the condition is acute and of short duration, rest in bed is useful, provided it can be secured without force. For prolonged mental excitement from cerebral hyperæmia it will be usually better to equalize the circulation by that motor activity which is characteristic of the disease, and to allow free exercise in the open air, keeping within the limits of exhaustion. My experience has not justified the use of bleeding, except, possibly, in acute delirium (mania peracuta). It is difficult to limit the action of blisters, and they often irritate the patient so much as to do more harm than good. Persistent refusal of food is usually due to delirium or delusions, and should be met with a resort to feeding with the stomach-tube before the point of exhaustion is reached if the tact of a skilled nurse fails of success. Mechanical restraint increases the cerebral hyperæmia, and there are few homes or general hospitals where it must not be used if there is excessive violence or delirium, making the insane asylum in those cases a necessity. Objectionable as it is, however, mechanical restraint is less harmful than the continued use of large doses of sedative drugs, as is so often the practice, in order to keep patients quiet enough to remain at home.

Ergot, hydrate of chloral, and opiates, which sometimes must be given by the rectum or stomach-tube, are sometimes advisable for a short time, but must be used with great caution. Milder sedatives, especially the bromides, serve a temporary use in the less violent cases; but less sleep will often serve if secured by quiet, abundant liquid food, and general measures, and in exhaustion by alcoholic stimulants.

Menorrhagia is very common in the maniacal states. It usually requires no special treatment, unless so great as to produce exhaustion. Amenorrhœa is commonly conservative, and then demands only general treatment; if it causes evident disturbance of the cerebral circulation, the ordinary methods, including electricity, massage, and local use of leeches, should be used.

Galvanism is sometimes useful, applied to the head, in cases of mental torpor and stupor. That and the faradic current, used with great care, act as powerful tonics to the general nervous and muscular system.

Insomnia is often the chief manifestation of the insane taint, in which case drugs are, for the most part, worse than useless. In all forms of sleeplessness it is better to try malt, cod-liver oil, beer, food, massage, baths, exercise, rest, etc. before resorting to narcotics and sedatives. Camphor, hyoscyamus, cannabis indica, the valerianates, bromides, codeia are much less objectionable than chloral, morphine, and opium.

Where masturbation is simply an evidence of loss of self-control, it is met best by constant watching, and gradually, as the mental state improves, arranging the daily life so as to develop the feeling of self-respect. Where it depends upon local paræsthesia, opium and camphor and cold bathing are indicated.

Constipation is a troublesome symptom, especially in the states of mental depression. When a full, laxative diet, cod-liver oil, and malt do not correct it, small doses of laxatives given frequently act better than the occasional use of purgatives.

There is a class of cases which are best treated by educating the patients as one would educate a child.

In the general care of the insane it is the duty of the state to see that they have all the rights of the citizen which are consistent with their proper and safe treatment, including the benefits of property and estate. There certainly should be in all countries, as in England, officers whose duty it is to see that this is done. For a large number of people with defective or diseased brains, who are now allowed to wander about committing crimes and serving repeated sentences in reformatories, houses of correction, and prisons, an enlightened public policy would find the best, and in the end the cheapest, treatment to consist in keeping them under supervision and control as unsound members of society.

The more particular treatment of the insane differs in the various mental diseases, varying as it necessarily must according to different conditions. Its prevention is not an easy problem. Many of the external causes of insanity seem inevitable in our complex civilization: it would be impossible to widely regulate marriages, even if we knew how; those people predisposed to insanity are usually too self-confident and self-willed to receive advice; and moderation in all things, healthful occupation, temperate habits, good digestion, and, above all, out-of-door life, seem as much like a sarcasm if suggested to many of the toilers as a waste of words if recommended to the idle and luxurious, while the parents who have transmitted to their children unstable or diseased brains generally impair what chances they have in life by vicious training.

Where syphilis, drunkenness, and other marked sources of mental degeneration do not obtain, simple food, plenty of sleep, avoidance of extremes of heat and cold, plain dressing, baths, good digestion, out-of-door life, fresh air, careful attention to slight disorders or injuries of the brain and nervous system, guidance against too much study and too much excitement or dissipation, development of character and moral force, intellectual and physical training, avoidance of too much emotional, sentimental, or even artistic culture, careful watchfulness during the period of adolescence, occupation without overwork, healthful recreation, a con-

tented or philosophical mind, and suitable marriages, would produce the strong wills and healthy organisms needed to combat the tendencies of modern life. Such a course would undoubtedly make many a child with an hereditary predisposition to insanity become a healthy parent of children in whom the same treatment would soon eliminate the family taint. The character should be strengthened to learn to overcome difficulties rather than evade them. There are cases in which such a course can be adopted, and where the physician's advice may be of untold benefit to generations.

There are many crises in life when the mind totters and seems ready to fall, which the physician is more likely to recognize than any other person. Sometimes the odds are too heavy to fight against, but often there is a transient mental disturbance in such critical cases, or an incipient insanity, according as the indications are met with wisdom and patience or with neglect, indifference, and lack of judgment. The treatment called for is of the person rather than of the mental state, and in all forms of mental disease success in treatment depends very materially upon the personality of the physician, who must adapt himself also to the personality of the patient.

In about one-fourth of the cases of insanity there is no hereditary predisposition to the disease, and its prevention can be most hopefully looked for in attention to the general laws of health, the observance of which tends to secure immunity from all diseases. In the remaining cases—three times as many, in round numbers—the most hopeful course is in abstaining from marriage altogether or in the avoidance of unwise marriages; and it is an encouraging fact that many people in the community now take that conscientious view of the matter, although if they decide what to do without competent advice they are liable to err in the opposite direction of exaggerating their morbid tendencies, and so increasing their unhealthy predisposition. There are certain groups of physical and mental manifestations which the experienced physician recognizes as signs of tendencies which only await favorable conditions—a sufficient exciting cause—in the indulgence in drink or other excesses, in the exclusive search for wealth or fame, in the absence of healthy occupation, in mental wear and worry, in over-excitement, in the various conditions of ill-health, to develop into actual insanity. This physiognomy of temperament suggests to the observant physician a warning against excess of all kinds, and a recommendation for that course in life which promises the greatest likelihood of preserving a quiet mind and a healthy body and of securing a rational employment. Too much work is less dangerous to most people than too little.

States of Mental Defect and Degeneration.[1]

Microcephalism, Cretinism, Intellectual Idiocy, Moral Idiocy, Intellectual Imbecility, Moral Imbecility (under which Westphal, Spitzka, and others place moral insanity) are really names for different degrees of similar defects, for the most part hereditary and con-

[1] Compare Moreau's *La Psychologie morbide* and Morel's *Traité des Dégénérences physiques, intellectuelles, et morales de l'Espèce humaine.*

genital or resulting from disease or injury in infancy and early childhood, as distinguished from dementia, which is the result of later destructive mental or brain diseases. Idiots and the demented insane are sometimes so alike in their mental condition that, if young persons, they can be definitely distinguished one from the other only by a knowledge of the previous history of the case. Idiocy has its origin at or before birth or soon after, and terminal dementia seldom before puberty, commonly after maturity. In the United States census, where there is a doubt in the matter, the individual is classed as an idiot if the mental disorder occurred before the age of twelve in girls and fourteen in boys, and as insane (demented) if above that age.

The microcephalic brain may be as small as one-fifth the normal size, due chiefly to intra-uterine conditions for the most part unknown. Of course that means complete idiocy. The brains of other idiots differ in size and development. The mental condition in all is similar. Idiocy with the small or large or asymmetrical brain is classified, practically rather than scientifically, by Shuttleworth, as follows:

A. Congenital or Developmental[1] Cases.—1, Microcephalic, with small heads: forehead and occiput defective; 2, hydrocephalic; 3, plagiocephalic, with distorted heads: features in an oblique plane; 4, scaphocephalic, with keel-like distortion of forehead; 5, scrofulous cases; 6, Mongol type; 7, cretinoid cases, with stunted bodies: irregularly expanded heads and enlarged thyroid glands; 8, syphilitic cases; 9, primary neurotic, with body well developed: signs of irregular nervous action; 10, sensorial idiocy, with two or more senses deficient (*e. g.* sight and hearing); 11, mixed cases.

B. Non-Congenital, Acquired, or Accidental.—1, Traumatic; 2, post-febrile; 3, hydrocephalic; 4, hypertrophic, with large square-built heads; 5, eclampsic; 6, epileptic; 7, paralytic; 8, idiocy by deprivation: loss of two or more senses in infancy (*e. g.* sight and hearing); 9, emotional idiocy, with no bodily deformity: shrinking, scared expression; 10, toxic idiocy, with no bodily deformity: malnutrition.[2]

From the creature of deformed limbs and ape-like movements, incapable of articulate speech, even in monosyllables, or systematized ideas, leading a purely vegetative life, unclean, and with the instincts of a wild beast, up to moderate mental or moral imbecility, there are endless varieties of defects and monstrosities in mind, character, morals, and instincts, differing according to the profoundness of the disorder of the brain (hydrocephalus, atrophy, sclerosis, inflammation of the brain substance or membranes, injury from compression, blows, falls, convulsions, etc.), the extent of the defect in the brain development, the amount of the degenerative hereditary taint, or, in the case of cretinism, the importance of the endemic as well as the congenital influences.

In some of the higher planes of imbecility a considerable degree of intellectual brightness, or even talent, is often observed, and every variety of mental and moral perversion or simple reckless brutality. Training often does a great deal to bring many of these unfortunate creatures within the bounds of good behavior, but their care oftener falls within

[1] Developmental conveniently includes those cases which, though of intra-uterine origin, become more pronounced as physical development proceeds.

[2] "The Physical Features of Idiocy," *Liverpool Medico-Chirurgical Journal*, July, 1883.

the province of the medical superintendent in an asylum or the teacher than to the physician in general practice. They are easily led astray by others, and commit all sorts of motiveless crimes or with a trivial or disproportionate motive, and with blind disregard of consequences or inability to comprehend them. In the gallery, at Washington, of photographs of counterfeiters and of passers of counterfeit money, the faces of the latter show conclusively that they belong to the intellectually weak-minded or imbecile class. Their own amusement, gratification, or impulse is so far the basis of their conduct that only a minority are harmless if not more or less constantly watched. Fortunately, a great portion—unfortunately, not all—of the idiots are sterile, but many of the mentally and morally weak-minded, with striking congenital defects which no training can fully remedy, propagate their species indefinitely for the benefit of our prisons and asylums.

Intellectual idiocy and marked intellectual imbecility are so common as to constitute 1 in 650 of our population. Less noticeable intellectual imbecility is quite frequent in the large class of troublesome and perverse children and youth of both sexes, commonly called weak-minded.

Moral imbecility, which cannot be corrected by education, is less common.

Moral idiocy is rare. It consists in such an absence of the moral sense that it cannot be aroused. It is sometimes associated with sufficient intellectual powers to make deliberate action and premeditation quite possible. Such persons are monstrosities, who, for the safety of the community, must be kept shut up for life like wild beasts.

The fact should be remembered, from a medico-legal point of view, that the defective in mind are quite liable to short attacks of simple mania and mental depression and to epilepsy, both of the obvious type and of the obscure or masked form, so that their degrees of responsibility, or rather of irresponsibility, vary from time to time. As a rule, a good physical organization and a general condition denoting healthy circulation and nutrition mark the better brains, and constitute important elements in forming a prognosis in regard to the possibility of educating imbecile and feeble-minded children up to the point of reasonably good behavior and ability to at least partly take care of themselves. The simpler their lives and the more purely routine or imitative their work, the less their defect is noticed. Many can wheel a barrow as well as any one.

The Insane Temperament (Insane Diathesis, Neuro-psychopathische Constitution) is an exaggeration of the nervous temperament. It is closely allied to insanity and the neuroses, and at the critical periods of life is very apt to develop into one of them. It is congenital or due to early interference with the normal development of the brain by injury or disease. It shows itself in childhood and infancy by irregular or disturbed sleep, irritability, apprehension, strange ideas, great sensitiveness to external impressions, high temperature, delirium, or convulsions from slight causes, disagreeable dreams and visions, romancing, intense feeling, periodic headache, muscular twitchings, capricious appetite, and great intolerance of stimulants and narcotics. At puberty developmental anomalies are often observed in girls, and not seldom perverted sexual instincts in both sexes. During adolescence there are often excessive shyness or bravado, always introspection and self-consciousness, and sometimes abeyance or absence of the sexual instinct, which, however,

is frequently of extraordinary intensity. The imitative and imaginative faculties may be quick. The affections and emotions are strong. Vehement dislikes are formed, and intense personal attachments result in extraordinary friendships, which not seldom swing suddenly around to bitter enmity or indifference. The natural home associations and feelings easily become disturbed or perverted. The passions are unduly a force in the character, which is commonly said to lack will-power. The individual's higher brain-centres are inhibited, and he dashes about like a ship without a rudder, fairly well if the winds are fair and the seas calm, but dependent upon the elements for the character and time of the final wreck. Invention, poetry, music, artistic taste, philanthropy, intensity, and originality are sometimes of a high order among these persons, but desultory, half-finished work and shiftlessness are much more common. With many of them concentrated, sustained effort is impossible, and attempts to keep them to it result disastrously. Their common sense, perception of the relations of life, executive or business faculty, and judgment are seldom well developed. The memory is now and then phenomenal. In later life there is a ready reaction to external circumstances, even to the weather, by which the individual is usually a little exhilarated or somewhat depressed. All sorts of vaso-motor disturbances are common and create distressing symptoms. Such people are said to be on the border-line between sanity and insanity. They are apt to be self-conscious, egoistic, suspicious, and morbidly conscientious; they easily become victims of insomnia, neurasthenic, hypochondriacal, neurotic, hysterical, or insane, and they offend against the proprieties of life or commit crimes with less cause or provocation than other persons. At the same time that many of them are among the most gifted and attractive people in their community, the majority are otherwise, and possess an uncommon capacity of making fools of themselves, being a nuisance to their friends and of little use to the world. Many of them get fairly well through life if their lives are tolerably easy or especially well regulated; if not, even they seldom escape further disturbance during the period of growing old. Their mortality-rate, especially from pulmonary consumption, is high. The prognosis is usually stated as unfavorable, largely, perhaps, because proper treatment is seldom pursued. If such children could be placed in the hands of judicious and experienced physicians from earliest years, much better results would undoubtedly be got and the downward tendency might be stopped. In the critical physiological periods of life, and under the influence of mental worry with physical strain, there is danger of breaking down. At the senile dissolution some of them lose much of their lifelong peculiarities, and as the mind fails in force and activity become more like other people. After the climacteric there may be also great improvement.

TREATMENT should consist in the general principles of mental hygiene, especially in training the mind to self-control and to avoid introspection—in a word, in maintaining health and in having healthy occupation. The earlier in life it begins, the better. It is well for such persons, unless of uncommon gifts in some direction, as many are, to obtain quiet, routine positions in life, and to avoid its wearing responsibilities as much as possible. The question of marriage is a difficult one for the physician if he is called upon for advice. Of course the risk often can be estimated only

approximately, even after knowing both parties, who will heed medical counsel implicitly if it happens to coincide with their own notions. The further propagation of the neuro-psychopathic constitution in the world involves much entirely uncompensated misery, as well as genius, enthusiasm, and originality, the compensation for which is estimated by society in one way as regards Burns, Byron, De Quincey, Carlyle, Goldsmith, John Howard, and Frederick the Great's father, and in another when considering the inmates of jails and almshouses and the destroyers of home peace. Maudsley thinks that one such poet as Shelley justifies the risks of marriage in the insane diathesis, and Savage considers the neuro-psychopathic constitution a useful element in society; while Clouston holds that the world would be better off to lose the few ill-balanced geniuses, the hundreds of impracticable, unwise talented men and women, and the thousands of people who cannot get on, shiftless, given to drink, idle, improvident, and unpractical, to get rid of the insane diathesis, especially if we shall find a middle course and learn to apply the laws of heredity so as to save the best and eliminate the unsound. It is to this class probably that Pinel refers in saying that what he calls moral insanity is largely a matter of bad education. It is undoubtedly true that judicious training in very many cases would limit, if not prevent, the further development of the morbid element and strengthen the healthy side, so as to prevent actual insanity.

CONSTITUTIONAL AFFECTIVE MENTAL DISEASE is a further development of the congenital or hereditary predisposition to nervous or mental disease, with more or less of the marks of the neuro-psychopathic constitution. It is of two forms, the depressed and the mildly exhilarated, in neither case amounting to simple melancholia or mild mania. Sometimes the two forms are seen in a single member or in different members of one family where mental degeneration has begun. The frequent association of pulmonary consumption with these cases is possibly, in part, due to malnutrition in those persons living under the influence of more or less perpetual gloom, and to exposure and over-exertion in those who are constantly unnaturally excited, sleeping too little and driving their alert brains to the extent of exhaustion. Misanthropists, communists, iconoclasts of all kinds, enthusiasts and reformers, useful people and worse than useless, common nuisances, criminals, saints, and heroes, are found among them. Undoubtedly, in the case of criminals the tyranny of their organization deprives the intellect of much of the proper inhibitory power over the passions and evil tendencies, and yet with sufficient motive they can hold themselves considerably in check.

The PROGNOSIS is not favorable. At the critical periods of life, after severe diseases or injuries and with undue mental or physical strain, there is danger of further progress of the disease into more pronounced types; and this result is often the only way of satisfying the community that what they called meanness or wickedness was only disease. The progress of the disease is commonly very slow. It often seems like simple progressive development of character, except for the fact, generally overlooked, that it advances often in a different direction to what would be natural, and is independent of normal development. The subsidence of habitual severe headache not seldom marks a sharp advance in the severity of the mental symptoms.

The TREATMENT is hygienic. It must begin early in life, and be devoted especially to avoidance of mental overwork, to healthy occupation, to simple habits, and to a wise mental training.

MORAL INSANITY (Insanity of Action, Affective Insanity, l'Insanite morale, Moralisches Irresein, Folie raisonnante, Folie lucide, Manie sans délire of Pinel), the general moral mania of Ray, is distinguished by that writer from partial moral mania (instinctive mania, manie raisonnante of Pinel, la folie impulsive, impulsive insanity, emotional insanity, impulsives Irresein), which includes suicidal insanity, homicidal insanity, dipsomania, pyromania, kleptomania, erotomania, nymphomania, satyriasis (aidoiomania), animal impulse, perverted sexual instinct (conträre Sexualempfindung, la sensation sexuelle contraire), and topophobia, if that disease be classed among the insanities.

Moral insanity is seldom seen in the insane asylum until the disease has passed over into pronounced mental enfeeblement or delusional insanity. Purely moral insanity—"an uncontrollable violence of the emotions and instincts"—is probably as rare as purely intellectual insanity. Moral insanity is attended with some mental impairment, just as moral perversion is part of intellectual insanity. Indeed, I have heard patients complain as much of the degradation of character in their insanity as of any symptoms referable directly to the intellect. The term is not a fortunate one, but, like the expression moral treatment of the insane, it is in quite general use. It is recognized by all the authorities on mental disease, whatever may be their opinions as to the limitations of responsibility in it. It is especially to it that we can apply the words of the Autocrat of the Breakfast-Table, that the worst forms of insanity are those to which the asylum shuts its doors. It is marked by moral perversion, change of character and action, and so little intellectual impairment as to be easily overlooked by one not familiar with morbid mental phenomena.

Mild simple mania ending in recovery has been described as moral insanity even by Pinel and Pritchard, and is so miscalled rather generally at the present day. Moral deterioration is observed after fevers or physiological periods of life, following slight and moderate cerebral hemorrhages or injuries to the back and head, affecting the brain, mental strain, etc., which, in persons of the neuro-psychopathic constitution, now and then end in permanent change of character. A similar but curable mental state is the frequent beginning of more pronounced insanity, and often remains the sole evidence of unsoundness of mind even after the patient is thought well enough to be discharged from the asylum.

Although moral insanity is probably a common cause of young persons of both sexes being led into lives of licentiousness, wickedness, and crime, it is to be carefully differentiated from deliberate yielding to temptation and following lives of vice until a strong enough motive is offered for doing better or a punishment is made sufficient to be deterrent.

Moral insanity is essentially a very slowly progressive and incurable disease, starting in congenital or acquired mental deterioration, and with its symptoms. It usually ends, after long years of wretchedness to the individual and misery to his friends, in more general insanity, slowly advancing dementia, death by intercurrent disease or accident, or in suicide. It is a most distressing disease in the young, who are punished

by parents and teachers in succession, sent about from one school to another, boarded with friends or with disciplinarians until all are wearied out in turn, and all too late conclude that the case is one for a doctor or perhaps an asylum. At the evolution of the sexual power and at its decadence, during menstruation, pregnancy, childbirth, lactation, especially after fevers, blows injuring the brain, and cerebral disease or disorders of any kind, are the periods of especial danger, as more general mental disease is then developed with seemingly trivial exciting causes. The friends observe that the sufferers do not seem entirely natural. They imagine and suspect a great deal, rather than possess real delusions. They often say that their heads are not quite right, and manifest an evidently diminished capacity for mental work, which tires them or makes them irritable. Modest girls become indelicate, the truthful lie, the delicate use profane and obscene language, the mild-mannered destroy furniture and clothing, the peaceful quarrel, the gentle storm and rave; and yet there is a standard of virtue and right, often a high one, on which they theorize, and up to which they often think that they live. They take strong dislikes to those with whom they are brought in contact, especially their nearest relatives. They often lose the capacity to do work, and now and then become spendthrifts or drunkards. As a rule, there are frequent periods of quiet, amounting to depression, but rarely reaching the condition of melancholia. Alternation or periodicity in the symptoms is the rule. After threatening and even endangering the lives of those nearest to them, insulting and indelicate conduct in public, perhaps frequent arrests, a dozen times outwitting those who wish to confine them in asylums, where they belong, their minds being alert enough to attribute their conduct to drink or some cause for which they receive slight punishment, and to argue their own cases so as to convince almost any jury of their sanity, the rule is that their doubts, imaginations, and suspicions deepen into active insane delusions, their mental impairment advances to noticeable dementia, their moral deterioration goes on to such a degree of depravity that every body wonders why they had not been seen to be insane long ago, and they are secluded in an asylum or elsewhere. A not uncommon but unfortunate end is when they kill themselves before anybody but a few specialists recognize their irresponsibility. Their recklessness and want of judgment are often the cause of fatal illnesses and accidents. Clouston reports the case of a lady who by a series of extraordinary misrepresentations and clever impostures raised large sums of money on no security whatever, and spent them as recklessly; imposed on jewellers, so that they trusted her with goods worth hundreds of pounds; furnished grand houses at the expense of trusting upholsterers; introduced herself by open impudence to one great nobleman after another, and then introduced her dupes, who, on the faith of these distinguished social connections, at once disgorged money. To one person she was a great literary character; to another of royal descent; to another she had immense expectations; to another she was a stern religionist. At last all this lying, cheating, scheming, and imposture developed into marked insanity and brain disease, of which she soon died; and it was seen that all these people had been the dupes of a lunatic whose very boldness, cunning, and mendacity had been the direct result of her insanity.

S. K. Towle has reported the case of a man whom he had under

his care at the Soldiers' Home near Milwaukee, Wis., as follows: "He had been a lieutenant in a volunteer regiment, and I gave him rather more privileges on that account, but after a time I found that he was more nearly an example of total depravity than I had ever seen. There was no truth in him, and he was intelligent enough to make his lies often seem plausible to me as well as to others. By his writing and talking and conduct generally he kept the patients and their friends in a ferment, and gave me more trouble than the whole hospital besides. He had a small scar about the middle of his forehead, which he said was due to a slight flesh wound from a glancing ball in battle. While he was under my care an older brother came to see him, and he told me that up to the time his brother, my patient, who so tried my patience, entered the army he was almost a model young man, amiable and affectionate, the pet of the whole family and intimate friends; 'But,' said he, 'ever since he came back he has been possessed of a devil if ever any one was.' After a time, much to my delight, he asked for a transfer to the Soldiers' Home at Dayton, Ohio, which I got for him with commendable alacrity; and he went there. His conduct at Dayton was the same as with me, but after a few months he quite suddenly died, when an autopsy was made. In sawing open the skull, at the point of the small scar on his forehead the saw came directly upon the butt end of a conical bullet, two-thirds of which projected through the skull, piercing the membranes and into the brain. The internal table of the skull had been considerably splintered by the ball, the pieces not being entirely separated, and there was evidence of severe chronic inflammation all around, and quite a collection of pus in the brain where the ball projected into it. Here was the devil that had possessed the poor fellow—that not only took his life, but destroyed his character, lost him the love and esteem of his friends, and doomed him for half a dozen years to do things he would most have hated and despised when he was himself. Dunlap, the assistant surgeon at Dayton, told me that he found in this man's trunk letters from several—half a dozen, I think, at least—women in various places, from which it appeared that he was engaged to be married to each one of them. The letters were neatly tied up in packages, each one's separately, in several instances with photographs supposed to be of the writers, and the date of reception and reply was noted on many of the letters in a business-like way."

As Westphal well says[1] of such persons, "They often think correctly and logically, and show reflection and deliberation to a certain degree; but there is a certain something lacking, and there are some general conceptions, general processes of thought and judgment, of which they are incapable. Their mentality stops short on a certain plane, especially in matters of judgment where every even uneducated person easily succeeds. They sometimes act as if they had good judgment and common sense, of which they are really destitute, particularly in regard to the proprieties of life and their proper social relations and duties. Certain of the finer feelings are absolutely impossible of development in them. Through their various acts, perverted by their mental defect, the patients often seem perverse (bösartig), passionate (leidenschaftlich), although of true sustained passion they are incapable. What seems passion is a sudden idea or fitful impulse to which they yield at once. Moral insanity is a defect in the affective

[1] *Berl. klin. Wochenschrift*, 1878, No. 15.

sphere, but also an intellectual defect of a peculiar kind, which is often concealed under the mask of a perverted moral sense, and which requires time and practice on the part of the physician for its detection."

Moral insanity is quite certain to pursue a downward course, although something can be done by training, general hygiene, simple diet, mental discipline, avoiding overwork, a judicious choice of the few occupations of which the moral insane are capable, and a constant steadying hand to help them try to keep their balance.

Impulsive Insanity is perhaps more properly called instinctive monomania, as the morbid impulse is usually shown in only one insane propensity at a time. Like moral insanity, its manifestations are commonly periodic, or at least alternating. Under the name of emotional insanity it furnishes sympathetic juries with an excuse for finding not guilty of murder women who kill their betrayers and husbands who shoot a wife's seducer. It is a not uncommon symptom in a considerable proportion of the persons suffering from the various forms of insanity. As a separate disease it is quite rare, and includes those persons whose insanity is manifested, as Marc says, by what they do rather than by what they say. The insane impulse does not come from any logical process. It is rarely provoked by or associated with a criminal motive, except in an analogous way to the production by excitement of an epileptic attack, to which, indeed, it offers some points of similarity. There would be reason to doubt the existence of the disease unless other indications of mental degeneration were present, especially where there is proof of a criminal motive or where the criminal act and the prisoner's statements are the sole evidence of unsoundness of mind. Unconsciousness, even temporary, and loss of memory, are not symptoms of instinctive monomania. On the contrary, the mind is quite clear, and resists successfully the insane impulse so long that the person affected with it has often gained confidence that he will never yield to it; and he soon learns the fact that, there being in circumstances external to himself no reason for the crime suggested to the mind with such force, temptations do not occur to the act. While the impulse lasts a great variety of distressing mental symptoms accompany it, so intense that the impulse often cannot be resisted, and then the terrible brain-tension is relieved. I doubt whether hallucinations of hearing are found in impulsive insanity, and incline to think that all the reported cases where crimes of impulse have been committed in obedience to a voice commanding the individual to do this or that act of violence are more properly classified under other forms of mental disease. One kind of instinctive monomania sometimes disappears to be replaced by another. In developing boys and girls there is not seldom a pathological mental state during which lying, stealing, running away from home, etc. are common for several months or a few years; but this is a curable condition, and does not by any means necessarily end in instinctive monomania.

Suicidal insanity is probably the most common form of instinctive monomania. The force, or even presence, of the suicidal impulse is largely dependent upon the general tone of the system. The suicidal idea is common; it occurs to the minds of a vast number of sane people at one time or another under adverse circumstances. Hysterical women talk a lot of nonsense on the subject. Self-destruction due to self-depreci-

ation, weariness of life, and general gloom is not uncommon in the insane temperament. It is also a refuge to proud and sensitive people who have sacrificed their honor. But this is quite different from suicidal insanity, in which the impulse is often strongest at a time when there are the most reasons for living and the greatest happiness in life if the tormenting demon urging to self-murder could be excluded. Such people finally kill themselves, in spite of their best resolutions and efforts to the contrary, if the various faculties of the mind become more and more involved as the disease goes on and the power of self-control is progressively weakened. More general insanity of the degenerative type is sometimes developed from suicidal insanity.

Homicidal insanity is fortunately still rarer than the last-mentioned form, although motiveless homicidal ideas occur to husbands and wives and parents with reference to those dearest to them, under conditions of prolonged mental strain or exhaustion, during pregnancy and the puerperal state, and at the climacterium. In suspected crimes the evidence of homicidal insanity should be clear and should rest upon the general signs of the degenerative mental state. Homicidal impulses are common enough among the insane. Just as there are persons who do not dare to have sharp instruments in their rooms for fear of killing themselves, so there are others to whose minds axes, knives, and razors suggest imperative conceptions of plans for killing another. It is difficult in either case for the physician to satisfy himself at what point real insanity begins. Seclusion under the morbid influences of an asylum is very bad treatment for the individual, and symptoms which seem very serious often disappear by restoring the general health. In a recent case,[1] where a youth of nineteen was acquitted of the murder of his mother on the ground of homicidal insanity, he knew that the act was wrong, realized that he had committed a crime, and was full of grief for it, as occurs in all such cases. It is the rule, too, that there is some condition of mental defect or degeneration out of which the homicidal insanity is developed.

Dipsomania, a rare manifestation of impulsive insanity, differs entirely from the acquired alcohol habit, drunkenness, acute or chronic alcoholism, delirium tremens, or habitual intoxication, all of which conditions are also more readily developed in the neuro-psychopathic constitution than in persons with healthy brains, and may reach a point constituting insanity. Dipsomania is periodic, uncontrollable, and associated with other evidences of the insane diathesis. The prognosis is unfavorable. The treatment is to improve the general nervous tone and to seclude the patient during his attacks.

Pyromania and kleptomania are not rare as symptoms of insanity of the marked forms which are observed in asylums. As manifestations of impulsive insanity—that is, as constituting a form of insanity—they are associated with other evidences of mental defect or degeneration. Burning and stealing alone are not indications of insanity. As such, they are without sane motive, and directed to objects in burning or stealing which there is no gain to the person and usually no gratification except the sense of relief which comes from yielding to the impulse, and of distressing mental symptoms if the impulse is resisted.

Nymphomania in the female, satyriasis in the male, and the various

[1] *Quarterly Journal of Mental Science*, October, 1883, p. 387.

perverse and degrading methods of gratification of the sexual instinct, may, when joined with other evidences of mental or nervous disorder, constitute one form of impulsive insanity. Erotomania, an ideal attachment without erotic feeling, is a more common mental disease, but the other evidences of insane conduct are quite striking. The same statement holds true of the many perverted instincts which, according to circumstances, are or are not manifestations of the defective brain-inhibition of disease. Animal impulse as a form of impulsive insanity I had been inclined to doubt until I recently saw two cases of as extreme mental suffering as I ever witnessed, in two refined ladies who had suffered also from some cerebral symptoms, occasional dizziness, and suicidal insanity, but who had no other symptoms of cerebral disorder than those which are grouped under the head of insane diathesis, and they not marked. It is not associated with any erotic feeling or with particular persons. There is more rapid wasting in flesh and strength and loss of sleep than in the other forms of impulsive insanity, and, in my experience, greater dread of yielding to the demon of unrest.

The perverted sexual instinct, with a feeling of repugnance to the opposite sex, has thus far been observed chiefly in persons who have been addicted to masturbation. It is marked by a passion for some individual of the same sex, by other evidences of the neuropathic condition, and commonly by a grotesque imitation of the habits or dress of the opposite sex.

The indications for treatment in impulsive insanity are cod-liver oil, the bromides, simple non-stimulating diet, open-air life, judiciously regulated exercise, mental occupation so far as is possible, and removal from suggestive surroundings and associations. The prognosis is not favorable as to the final result. If the symptoms disappear on restoration of the general health, other marked indications of cerebro-mental disorder are pretty certain to appear sooner or later.

Hysterical Insanity is one of the states of mental degeneration, much less common among men than among women, arising from the further development of a neurosis, hysteria, and probably to a great extent due to bad training. Hysterical symptoms, quite marked, are very common among young persons and in single women of all ages in simple mania. They are not uncommon in simple melancholia and in other forms of mental disease. They add somewhat to the gravity of the prognosis in these cases. They constitute a group of symptoms which I suppose to be understood by those authors who speak of hysterical insanity as a disease in which the cure-rate is high. But hysterical insanity, as quite distinct from other psychoses, is quite a different matter. It is characterized by extreme and rapid mobility of the mental symptoms—amnesia, exhilaration, melancholic depression, theatrical display, suspicion, distrust, prejudice, a curious combination of truth and more or less unconscious deception, with periods of mental clearness and sound judgment which are often of greater degree than is common in their families; sleeplessness, distressing and grotesque hallucinations of sight, distortion and perversion of facts rather than definite delusions, visions, hyperæsthesias, anæsthesias, paræsthesias, exceeding sensitiveness to light, touch, and sound, morbid attachments, fanciful beliefs, an unhealthy imagination, abortive or sensational suicidal manœuvres, occasional outbursts of violence, a curious combination of unspeakable wretch-

edness alternating with joy, generosity, and selfishness—of gifts and graces on the one hand and exactions on the other. The mental instability is like a vane veered by every zephyr. The most trifling causes start a mental whirlwind. There is no disease giving rise to more genuine suffering or appealing more strongly for the sympathy which, freely given, only does harm. One such person in the house wears out and outlives one after another every healthy member of the family who is unwisely allowed to devote herself with conscientious zeal to the invalid.

The PROGNOSIS is unfavorable. While the symptoms may be alleviated and a nominal cure may be effected, a relapse or the development of some other troublesome form of insanity or neurosis is the rule, to which the exceptions occur for the most part in women in whom there is also some serious curable uterine disease or a state of excessive physical prostration which can be relieved.

The TREATMENT of hysterical insanity demands tact and educating power which will tax to the utmost the ingenuity of the wisest physician. Sympathetic friends, and sympathy in general, are useful in moderation, but they oftener do great harm, because they are excessive; and the care which does good is that which, while being kind and firm, tends to develop strength and character. The will and the imagination are so extraordinarily powerful that their wise direction and government constitute the most important part of successful treatment. Diversion, occupation, and the development of self-control, with careful attention to the general laws of health, are quite important. The temptation to use drugs is, like the fascination of being pitied and petted, very great, as alcohol, chloral, or opium often acts like magic for the time being, and there is generally a craving for one or all of them. But they are utterly demoralizing in the end. The habitual use of stimulants and narcotics in such cases only increases the evil. The fact must be recognized that the hysterical insane are often least responsible where they seem most so, and that they must be treated with unending patience, kindness, gentle firmness, and a wise ignoring of most of the symptoms. Simple palliative sedatives which cannot do harm must sometimes be used, but the general rule, the less active treatment the better, is safest. In the few cases where benefit has been got from removal of the ovaries, healthy or diseased, the improvement, if it shall prove to be lasting, will probably be attributable to the great physiological shock from the operation rather than to any relation of the ovaries to the disease. Removal from home is usually advisable for a time at least—often it is necessary; and if residence in an asylum is not thought to be wise, properly-selected hydropathic establishments or private asylums are useful. Living in a judicious physician's home is desirable when a suitable one can be found. In an asylum a rational letting-alone treatment is found to be the most successful. If the patient remains at home, hired nurses should be in charge of the patient, or at least not members of the family. Safe seclusion will be found necessary for the few who will not otherwise be prevented from committing crimes and offences of startling ingenuity or conspicuous publicity.

EPILEPTIC INSANITY arises from a neurosis, epilepsy, which almost inevitably ends in mental deterioration of greater or less degree, from scarcely noticeable impairment to complete dementia. The insanity may

be a continuous state; it may be subsequent to the epileptic attack, or precede it, or take the place of it. Epileptic dementia is more nearly allied to idiocy than dementia following other mental diseases, and it is associated with a degree of moral perversion and brutality which is quite uncommon in other dementia. The insanity following or preceding the epileptic attack is attended with stupor, delusions of persecution, confusion, transitory fury, or a condition quite analogous to somnambulism or cerebral automatism; and the same may be said of insanity replacing the epileptic attack, except that the most common condition in it is a violent maniacal fury, with unconsciousness, and subsequent nearly if not quite complete amnesia. The forms of mental impairment are progressive in the vast majority of cases. The other forms are more amenable to the usual treatment of epilepsy, and sometimes diminish in severity as the disease advances and the mind becomes weakened. In the fury which takes the place of the epileptic convulsion there is in nearly every case—I am inclined to think in all cases—an intellectual aura, a slight change of action, observable early enough to give warning of the approaching storm, which can always be mitigated, and often entirely prevented, by absolute rest in bed and the use of chloral and the bromides.

Although some few epileptics become well without treatment, and a small number permanently recover under treatment, the PROGNOSIS is even less favorable for the epileptic insane. The care of insane epileptics should embrace, in the first place, safety to the community by secluding those dangerous to it, and, second, the usual hygienic and medical treatment of epilepsy.

Epileptic vertigo, analogous to petit mal, is a transitory mania, often associated with passing delusions.

With regard to the responsibility of the epileptic insane—and, indeed, all epileptics—the facts should be borne in mind that their mental state is usually one of such instability that a slight irritation of any kind is apt to induce a full or modified convulsion, and that under provocation they commit partly volitional crimes, for which they are not fully responsible.

HYPOCHONDRIACAL INSANITY differs only in degree from hypochondriasis, described on a subsequent page. It is an incurable manifestation of one type of the mental degenerations. It is slowly progressive, and often ends in dementia. It differs from hypochondriacal melancholia in being an evolution of mental defect or degeneration, and in the fact that the mental depression, which is usually of a mild, periodic, or impulsive form, is secondary to the other symptoms, and not, as in hypochondriacal melancholia, the mental condition out of which the hypochondriacal symptoms are evolved.

The TREATMENT consists in attention to the general laws of health, occupation, and a fattening diet. It is seldom successfully managed without occasional recourse to an asylum at least, and oftenest a permanent residence in hospitals, occasionally changing, is quite necessary.

PERIODIC INSANITY, usually mania or melancholia, is marked by attacks recurring at more or less regular intervals, with a partial but not complete return to the previous mental health between them. It is one of the incurable degenerative mental diseases. The seeming recovery is only apparent, and the mental deterioration is progressive, although quite slow. The form of insanity is also not seldom a folie raisonnante (affective

or moral insanity) with periods of all sorts of excesses, destructive tendencies, tramp-life, destructive acts, drunkenness, stealing, indecent exposure, etc. In the intervals, which may be short or long, and which sometimes correspond to certain seasons of the year, the mental condition is still a pathological one, with the usual signs of mental degeneration, thereby being differentiated from recurrent insanity, one of the curable psychoneuroses, in which there is a state of mental health between the successive attacks, but no sort of regularity or periodicity in the recurrences. The prognosis is unfavorable, except in so far as a quiet life in an asylum tends to prolong the intervals between the periodic outbreaks, as well as to prevent annoyance to the community during them.

Circular Insanity (Alternating insanity, Folie circulaire, Folie à double forme, Folie à formes alternes, Die cyclische Psychose, Das circuläre Irresein) consists in a psycho-rhythm or succession, in uniform order in each particular case, of (1) mental exaltation in all degrees, from mild exhilaration or even gayness to acute mania, and (2) mental depression of all conditions, torpor, or anergic stupor. These two opposite mental conditions are separated in the vast majority of cases by a shorter or longer interval of the normal mental state, in which, however, there is soon observed some mental impairment, however slight, rarely amounting to pronounced dementia except in old age. Sometimes the three states shade off into each other, so that it is difficult to say just where one begins and the other ends; less often the transition is abrupt, sometimes during sleep. The interval between the two opposite conditions of mind may succeed either of the other mental stages, but the order once established is maintained. The duration of the vicious circle varies in succeeding attacks, sometimes becoming longer, sometimes shorter, in the progress of the disease. The relative duration of the three succeeding mental condition also varies, but the type of each remains identical, or at least changes very gradually. The state of mental exaltation often resembles moral insanity, with all sorts of immoral impulses and tendencies, and may then properly be called an insanity of action. The depression sometimes goes no farther than sluggishness of will. The tendency of the disease is to shorten life only slightly, if at all, except from the chance of suicide in the depressed state and from exhaustion when the excited stage is one of active mania. The shortest duration of the cycle in my experience has been twenty-four hours, and the longest reported extends over several years. It sometimes remains an affective insanity in its whole course, without delusions and with little more dementia than might happen from simply a corresponding advance in age without mental disease.

During the period of excitement some supervision or control will usually be desirable, and removal to some retreat or asylum will often be necessary. In the depressed stage the indications are to maintain the general health, to meet the chances of suicide, and if there are delusions to obviate the risks of danger to other persons. If the interval of comparative mental health is of considerable duration, the ordinary occupation of the patient can commonly be followed at that time for a number of years, rarely for life; but a better result may be looked for if the patient's circumstances are such that he can give up active and anxious work for some quiet occupation not involving great care.

Primary Insanity (primäre Verrücktheit, primordiale Verrücktheit,

originäre Verrücktheit) is usually a further development of an hereditary predisposition to mental disease. The term primary monomania, although used as an equivalent for primäre Verrücktheit, seems to me too narrow for a disease in which the leading delusion may change so many times. Primary insanity is sometimes congenital, and may be developed also by injury or by disease involving the brain early in life or during the physiological changes at puberty, possibly by self-abuse, in persons of an unstable mental organization. It often develops so slowly with the character as to almost seem part of it, until it reaches such a degree of insane delusion of self-importance and expansive ideas as to be unmistakable insanity. There are also delusions of persecution, distrust, and suspicion, erotomania, and moral perversion, in spite of high claims to superior character, and indeed in spite of a high standard of life in some particulars. Perhaps the most striking symptom of primary insanity is the great variety of imperative conceptions (Zwangsvorstellungen) by virtue of which the individual is impelled, by a force often irresistible, to commit various offences against propriety and the laws, even to murder, as well as to perform countless acts of unwisdom or folly. There are usually physical indications of chronic or old cerebral disease, or of defect or degeneration in the incomplete or asymmetrical development of the brain, which, however, may be no more than are found in persons who might not be classed as of unsound mind. Attacks of simple mania (mental excitement) of short duration are quite common, and there is a progressive impairment of the higher faculties of the brain—those which come last in a high order of civilization—although there may be acuteness of memory, perspicacity, and shrewdness which seem altogether phenomenal as compared with the other mental qualities. There is no form of mental disease which is better expressed by the word craziness than primary insanity, no other in which the victim is more thoroughly in the grasp of his malady, and yet no other in which he is more likely to be held responsible for the crazy acts which he may perform, because his inherent mental state, out of which his generally deluded frame of mind is evolved, gives rise to delusive ideas of such a character that they are not universally recognized, even by physicians of experience in mental disease, as insane delusions, but are considered by some of them as the prevarications of a criminally-minded person. When these persons commit crimes, too, they often do so with methods and motives quite like those of the ordinary criminal.

The PROGNOSIS in primary insanity, after the disease is fully developed, is in the highest degree unfavorable. It remains to be seen how much can be done by moral training in childhood and youth to correct the evil tendency. The education of those who get into the courts and insane asylums, so far as my knowledge of such cases goes, has been bad to the last degree, so that, in my opinion, there has been a fair difference of opinion as to which of them the law should treat as criminals and which as insane persons.

TREATMENT for the most part requires absolute control of the individual, which there is usually no one in the family sound enough to maintain. If begun early, training away from home may accomplish much. Restraint in some institution is commonly called for, but the vast majority of the primary insane are allowed to take their chances in

the world, and as many end in jails and prisons or on the scaffold as in asylums.

The states of mental defect and degeneration, except in the case of idiocy or marked imbecility, are not associated with such obvious physical evidences of deviation from a normal mental standard as to make them pathognomonic. While asymmetry and other cerebral defects are frequently observed in them, it must be acknowledged with Schüle that similar and as extensive gross intracranial anomalies are found in persons who could not be called of unsound mind, and that this statement holds true even of primary insanity, in which some writers have laid so much stress upon the value of any indication of imperfect or asymmetrical cerebral development. Any defect in the brain, however, is far more common among persons of unsound mind than among those of sound mind, and therefore in doubtful cases it is of a certain value as corroborative evidence of mental infirmity or impairment.

Spitzka places as signs of the insane constitution (1) atypical asymmetry of the cerebral hemispheres as regards bulk; (2) atypical asymmetry in the gyral development; (3) persistence of embryonic features in the gyral arrangement; (4) defective development of the great interhemispheric commissure; (5) irregular and defective development of the great ganglia and of the conducting tracts; (6) anomalies in the development of the minute elements of the brain; (7) abnormal arrangement of the cerebral vascular channels,—at the same time acknowledging that there are cases of insanity of inherited origin in which cerebral defects are not discernible. It is too early to estimate the value and importance of the finer or qualitative cerebral defects as giving rise to insanity. Benedikt finds them also in criminals.

With regard to responsibility before the law, the statutes of no country provide for any criterion by which accountability is defined in these cases; medical witnesses differ in opinion as to their criminality, and the courts are obliged to interpret the law to suit individual cases.

The states of mental defect and degeneration are not sharply defined. They run more or less into one another. The fact should also be kept in mind that isolated symptoms and groups of symptoms belonging to them are repeatedly found in curable conditions of physical and mental exhaustion in neurotic persons.

The degenerative mental states are thought to be increasing, to furnish material for the increase in the otherwise curable insanities, and to thus include much of that portion of the community which is most filling up our institutions with incurable cases. It is probably in the prevention of them, or at least in the proper training and disposition of children affected with them or predisposed to them, that the most can be done to stay the increase of insanity. Perhaps at some time unwise marriages of passion and sentiment will be less common than now, and the rights of children to a fair start in life more considered.

Psychoneuroses.

AFFECTIVE MENTAL DISEASE is a folie raisonnante, one of the reasoning insanities, sometimes called moral insanity, and very like the moral

insanity already described, except in the absence of signs of mental degeneration and in the fact that it is a curable disorder. It is an insanity of action, marked by scarcely noticeable mental impairment. It often is the early stage of more serious mental disease, and not seldom its symptoms remain, as simply change of character, after the striking symptoms of extensive mental disorder have disappeared. It also exists and is cured without the appearance of more pronounced insanity. At the time of the climacteric it is a form of mental disorder not uncommon among women, who, however, usually fail to recognize it as such until they have recovered. Maudsley includes under this head simple melancholia, simple mania, and moral alienation, but it will be more convenient for the present purpose to use the term affective mental disease as indicating a curable moral alienation or change of character affecting the intellect chiefly so far as the judgment and sense of propriety only are concerned, and not dependent upon constitutional defect or developed degenerative mental state. There is usually slight exhilaration or depression, which alternates or varies from time to time.

The PROGNOSIS is favorable.

The TREATMENT is brain-nutrition, with those general measures already described.

HYPOCHONDRIASIS, as Flint[1] well says, belongs in the list of disorders of the mind, although the mental alienation is not regarded as amounting to insanity. The mental state is one of morbid imagination and apprehension rather than of definite delusion, and it consists in a belief in the existence, present or to come, of maladies and diseased conditions for which there is no foundation in fact, in spite of sufficient proof of their unreality. There is usually, not always, mental depression. Its causes lie in conditions, usually obscure, which lower the tone of the general health, including hereditary weaknesses, or depress the vitality of the brain either by physical wear or mental worry, and the exhausting influence of functional disorders or of organic diseases which may not be discovered before the autopsy. Disappointment, bad habits, want of proper mental occupation are often at fault.

The physical symptoms of hypochondriasis are commonly those associated with impaired digestion and nutrition—namely, anæmia, dyspepsia, neurasthenia, constipation, flatulence, headache or a feeling of discomfort after using the brain, less appetite, slight loss of flesh, disordered sleep.

The mental indications are more or less melancholy, indisposition to exertion, irritability, diminished power of self-control, and an inability to cease except temporarily from interpreting signs, proved to be trivial, as indicating grave maladies or as forewarnings of severe disease to come. Sometimes the fixed idea is limited to a single false conception, but oftener slight changes in physical symptoms or differing phases of morbid introspection produce a complete kaleidoscope of pictures of fancied misery. The whole catalogue of diseases, or a large part of it, may be exhausted, with the help of some of the many foolish treatises always ready for hypochondriacs or from reading medical books and talking with charlatans, who are consulted at rapid intervals, one after another, both by those who wander from office to office and those who take to their beds. The most common type of hypochondriasis arises, directly or indirectly,

[1] *Practice of Medicine*, p. 854.

in some form of unhealthy or false ideas regarding the sexual function, and in the idea that some imagined or exaggerated abuse of it has produced or will produce most serious evils; but there is not an organ of the body which may not be the basis for the unwholesome thoughts. Not seldom there is simply the delusion of especial weakness or sensitiveness or delicacy.

Hypochondriasis may be only the early stage of more serious mental disease. It may be one manifestation of an hereditary neurosis or psychoneurosis, or it may arise from deterioration of the body's vitality by organic disease, especially of the abdominal or pelvic organs or through some incurable weakness or functional disorder. In either of these cases its cause and duration will be determined by the clinical history. As an uncomplicated psychoneurosis hypochondria lasts from a few months to a number of years, with very little change in its prominent symptoms, resulting in recovery for the most part, becoming chronic in a moderate proportion of cases, and rarely proving fatal except by some accidental complication, including suicide.

The PATHOLOGY AND MORBID ANATOMY of the disease are unknown.

The differential DIAGNOSIS consists in the exclusion of other diseases.

The PROGNOSIS is favorable in uncomplicated cases.

TREATMENT consists in measures to improve the general health, especially a full diet carefully selected, hydro-therapeutics, massage, gymnastics, horseback riding, walking, rowing, abundant and agreeable exercise in the open air, and the management of the patient's surroundings so as to lighten the mind and relieve from worry, perhaps by travel, sea-voyages, etc. Argument is commonly worse than useless, but there should be a decided impression given that the generally morbid state is due to ill-health. The risk of suicide is so small that restrictions of liberty directed to its prevention do more harm than good. It goes without saying that bad habits should be reformed, narcotics should be avoided, and a healthy occupation should be encouraged, or, if possible, insisted upon. The difficulties in treatment are fully as great with the highly-educated superstitious and credulous people whom we find in the literary and professional circles as in the ignorant and weak-minded.

MELANCHOLIA (Die Melancholie, Schwermuth, Tiefsinn, Trübsinn, Lypemanie, Mélancolie, Aliénation partielle depressive, Monomanie triste, Phrenalgie, Psychalgia) is one of the functional mental diseases, in the sense that the pathological condition of the brain upon which it depends is not yet known, although it is thought to begin with disturbances in circulation and nutrition, which end, if not resulting in cure, in atrophic, degenerative, and inflammatory states, indicating, in the great majority of cases, extensive brain disease. As a rule, melancholia first appears in a slight change of character; the patient is said by his friends to be not quite like himself. After some days or months, as the case may be, the symptoms develop into settled gloom associated with mental pain —the state known as

Simple Melancholia (Mélancolie raisonnante), in which the events of life are correctly observed, but, incorrectly interpreted, are the source of constant apprehension, self-depreciation, depression, and despondency. There are no delusions, properly speaking, and yet there is a disposition to take the dark-side view even of circumstances which promise favor-

ably, which amounts to a generally deluded state of mind. Commonly there is increased irritability, now and then a genuine moral insanity, and occasionally in neuropathic constitutions the state of mind already described under the head of Impulsive Insanity, of which the suicidal impulse is the least infrequent. Sometimes there are no physical indications of disease, but as a rule there are headache, increased sensibility to light and noise, sleeplessness, restlessness, impaired appetite and digestion, gastro-intestinal catarrh, marked loss of flesh, diminished or abolished sexual desire, and in women usually delayed menstruation or amenorrhœa. A few persons are able to keep up, in an irregular sort of way, their customary employment. In the majority of cases it is impossible to concentrate the mind upon work, mental occupation fatigues the brain, and the physical strength is too impaired for steady labor. Suicide is thought of probably in nearly every case, as it is by many sane people at some time in their lives, but it is very seldom committed unless there are such disgraceful or distressing acts performed or suffered by them as would tempt to suicide in sane people. There is no danger of deliberate homicidal acts in persons of good character. A criminally disposed person would more readily commit murder in simple melancholia than if free from that disease.

Simple melancholia may be the initial stage of almost all of the mental diseases, especially acute mania, paralytic dementia, and the severer forms of melancholia. It may be differentiated from the first stage of mania only by waiting until other symptoms appear or not, and the same is true with regard to distinguishing it from the forms of melancholia involving danger to life. In the latter case, however, there is much greater difficulty in diagnosis, inasmuch as insane delusions may be concealed, and there may be so slight a change in the patient's behavior when delusions appear in his mind that the closest observation is needed to guard against them. The simple melancholia marking the first stage of paralytic dementia is characterized by noticeable although often slight mental impairment—a distinctly diminished capacity for work, of which the individual himself is not seldom conscious, whereas in the disease simple melancholia the mind's usual power is exerted, provided its attention can be withdrawn from morbid introspection and concentrated upon any subject, as it commonly can be for a while.

Melancholia with delusions (acute melancholia) is commonly a further development of simple melancholia, but sometimes its course is so rapid that if there is a period of mental depression without delusion it is overlooked. The earliest and most common delusion is some form of causeless self-reproach with regard to some matter, whether trivial or important, or of groundless self-accusation, of impossible sins of omission or commission, but generally of some vague, undefinable fault, as having irretrievably offended God or committed the unpardonable sin, etc. Often this and an unfounded belief in self-unworthiness are the only delusions present, and in that case within narrowed limitations the mind acts soundly in other matters. The feeling of personal fault or sin often expands to a sense of the justice of punishment, and the consequent delusion that all sorts of terrible things are to happen—poverty, the poorhouse, or some great unknown dread, even involving family and friends; and from personal sin or fault it is only a step to the belief

that the world is all wrong, and to the certainty that everything is going to worse than ruin. Illusions of sight and hearing may magnify common fires and locomotive whistles into general conflagrations of the world and shrieks of tormented persons. Hallucinations of the special senses may create visions of all sorts of imaginary horrors, sounds of voices saying every possible dreadful thing, odors most disagreeable, tastes most vile. Anæsthesia prompts the delusion of death, and hyperæsthesia of burning, freezing, scalding, etc. Some mysterious force within them, which they can neither explain nor understand, drives them to automatic acts of all kinds—to obscenity, profanity, verbigeration, intonation of sentences, wailing, screaming, destructiveness, etc. In cases of exceptional severity the mind seems deluded on almost every subject: the food is poisoned, the atmosphere is deadly, the world loses all its reality, friends their identity, things their substance. They are to be burned alive, starved, quartered, suffocated, smothered, drowned. Every conceivable and inconceivable thing is to happen. The delusions are nearly always of the illogical or unsystematized kind, although systematized delusions of persecution are met, for the most part, in incurable cases. Deliberate plans of suicide are formed in most cases, and are to be suspected in all. Homicidal attempts are apt to be made upon persons whom it is desired to save from impending calamities. Suicidal, and less often homicidal, impulses occur. Suicide and homicide from deliberation need, to be successful, (1) the opportunity, (2) lack of power of self-control, and (3) a strong determination. Sometimes there is the will without the opportunity, or the opportunity with self-control; and for this reason persons in danger of killing themselves or others often for months escape any acts of violence. Not seldom, too, they determine to kill themselves or family in a particular way, and neglect other chances so long that they are thought to be not meditating destruction of self or others. When the determination or impulse to suicide or homicide is persistent and desperate, no means are too horrible and no opportunities too hopeless to be attempted. There is no reason for a special name for these symptoms, but they have been called suicidal melancholia and homicidal melancholia. No more is there any justification of the term hypochondriacal melancholia for melancholia with hypochondriacal symptoms.

In melancholia with delusions there is sooner or later, in the majority of cases, refusal to eat, from lack of appetite, nausea, or disgust of food, from disagreeable hallucinations of taste or smell, from delusions that it is a sin to eat, that the stomach is full, that the mouth is sealed or the throat obstructed, that the food is not and cannot be paid for, that eating will do no good, etc., from a wish to commit suicide by starving, or in the states of stupor (attonitäts-zustände) from mental torpor or stupidity. Sometimes there is resistance to the calls to eat, urinate, or defecate by virtue of resistive melancholia—a condition to resist and oppose everything—or from delusions that it will destroy the soul, etc. to follow the natural inclinations. Refusal of food may be under certain conditions instinctive and conservative. It is the exception for the bodily functions to be well performed. Usually, there is obstinate constipation, with headache, coated tongue, greater variation in daily temperature than is usual in health, accelerated pulse, and rapid wasting in flesh. The various anomalous sensations observed in functional diseases of the nervous

system are common. Masturbation is a not infrequent symptom of loss of self-control in both sexes.

Acute melancholia is sometimes confounded with delusional insanity with mental depression. In the former the delusions are evolved from the mental state; in the latter, the mental state from the delusions. In the former the delusions are for the most part unsystematized: the patient cannot state why he believes them to be true; in the latter there is correct reasoning from false premises: the delusions are logical or systematized and of a depressing character, so that a belief in them naturally gives rise to sadness.

Before the courts the fact should be kept in mind that persons with acute melancholia have diminished power of self-control by virtue of their disease, and so yield more readily to temptation than in health. They also may have imperative conceptions—ideas so strong that they cannot, or can with difficulty, resist carrying them out even when they know them to be wrong; and there may be sudden outbursts of almost maniacal excitement. They are often able to make wills and perform contracts, in form and in detail, as well as ever, when they are so filled with insane delusions as to be on the point of killing themselves and their families. There is impaired capacity, however, of recognizing the relations of persons and things to one another, a distinct moral perversion, and a diminished recognition of obligations and sense of responsibility. In other words, they are not always fully themselves on those points in which they seem to be so, and yet patients in asylums with acute melancholia have been known to give the best of advice to their business-partners.

Melancholia with stupor (melancholia attonita) appears like complete dementia or a mindless state, but there are now and then evidences of intelligence. The mind is filled with overwhelming and terrible delusions, which paralyze the will and place mental and physical activity for a while in abeyance. It arises commonly in the course of the less profound form of melancholia, after some great mental shock, and there is a condition of marked anæmia of the brain, probably symptomatic rather than pathognomonic, which if not soon relieved goes on rapidly to atrophy and degeneration. Except when there are attacks of frenzy, which may occur at any time, there is little danger of active violent acts except suicide, desperate refusal of food, and determined resistance to any care or treatment. There are the usual indications of physical exhaustion.

In melancholia agitata the mind is clear and active, the opposite of the condition last described, and the distressing delusions produce such a degree of motor excitement arising from the mental suffering that the disease closely simulates acute mania. The mind not only reacts as readily as in health to distressing ideas, but abandons itself more fully to their domination through diminished will-power and lack of self-control. Almost blind acts of desperation and fury are committed from which the utmost vigilance can hardly save them.

The three severe forms of melancholia just described are interchangeable in the same person during the course of his illness, so that the states of frenzy and stupor are more properly called symptoms than classes of disease.

Melancholia among children is more common than the books state it to be, although rarely met in the asylums. Magnan has reported a

suicidal case in a child four years old, and it occurs up to the latest years of life.

The DURATION of simple melancholia is from a few weeks to a dozen years; of acute melancholia, from a month to two or three years, after which it is apt to end in chronicity; melancholia stupida (with stupor) is usually curable, if at all, in the first year, although relapses are frequent, and in melancholia agitata from a year to three years is the common limit of the possibility of a cure.

The PROGNOSIS in simple melancholia is favorable. Including cases treated out of asylums, probably 90 per cent. recover; in acute melancholia, uncomplicated with other diseases, not far from two-thirds recover; in melancholia attonita less than half get well; and in melancholia agitata nominal recovery occurs perhaps in a third of the cases, although I doubt whether complete restoration to health is seen often.

In chronic melancholia the process of mental deterioration is slow. As the mind becomes impaired the delusions lose their activity and the mind reacts less readily, so that a state of less suffering and greater calm is reached, and the patients are often useful workers in asylums for many years, or remain in their own homes a constant source of anxiety to those who understand their condition. Many of them commit suicide.

In treatment of melancholia the first indication is to protect society and the individual against acts of violence. Homicidal acts are not to be feared in simple melancholia, unless in persons of bad character and ugly temper, or in those few cases with the symptoms, in addition, of moral insanity or impulsive insanity. Suicide is so rare that precautions will not often be needed against it, provided the patient is so frank or so transparent that the appearance of distinct delusions may be detected and then guarded against. In cases of long standing, especially in persons beyond middle age, this is extremely difficult, and their treatment outside of asylums must always be attended with risk. In the other forms of melancholia the fact should be taken for granted that the patient is suicidal, and he may be also homicidal, so that he should be watched constantly and efficiently, and never left alone or with weak or helpless persons, no matter how free from suicidal determination or impulse he may have appeared. The puerperal mother, especially, is a source of the greatest danger to her child, even when she seems natural and fond. The degree and kind of watching varies, according to the severity of the case, from the constant presence or close proximity of some responsible person, who may sleep in the same room with the usual home-surroundings, to the most vigilant and wakeful personal care every moment day and night, and removal of every source of possible self-injury. In some few cases this can be well done only in an asylum or in a padded room. Some form of restraint, either personal or by confining or limiting the movements of the hands in rare cases of exceptional desperation, will be found necessary.

Placing the patient in an entirely healthy atmosphere is next in importance. In the very earliest stage quiet, recreation, change of scene, and association with a pleasant and judicious companion are often sufficient to effect a cure. If the disease is pronounced, rest and removal from sources of irritation are more important until convalescence, when travel may be tried. The question of removal from home and commitment to an asylum

should be decided upon the grounds already stated in considering the general treatment of mental diseases. The degree in which the patient should have exercise, occupation, and recreation or be let alone will be determined for each individual case. The fact should be borne in mind that the disease is a debilitating one, and that it arises in conditions of mental or physical exhaustion. Massage and a modified rest-cure, without seclusion, are beneficial in some cases, especially of elderly people. Baths and the cold pack should be used with discrimination. Electricity, where it does not give rise or add to delusions, is a useful tonic, especially in passive cases. There are very few patients of such desperate frenzy as to require confinement of the hands, and that should only be done with an attendant close at hand. Whatever is done, nothing should be attempted which excites delusions unless it be absolutely necessary. Fresh air, and an abundance of it, are very important. Experience and careful study of the particular case will be needed to know how far to press the taking of food. But the necessary amount should be given by the stomach-tube if ordinary means fail, and it is better to use it early rather than tire the patient out with ineffectual attempts with spoons, etc. Whether the nasal or œsophageal tube be used—of which I prefer the latter—the greatest care should be taken not to inject food into the lungs, the throat being so devoid of sensitiveness sometimes that the tube may be passed into the trachea. Nutrient enemata may be relied upon for a week or two if the patient is in bed, but no longer.

Tonics are indicated—cod-liver oil with bark, the hypophosphites, dilute phosphoric acid, malt. Strychnia, iron, and quinine should be used with caution, as they often cause disagreeable headache with indisposition to sleep. Fattening food will be found useful in most cases. The few fat melancholics need nitrogenous food and graduated exercise. Constipation will be corrected in many cases by a full, laxative diet, cod-liver oil, malt, or it may be beer. Mineral water or Sprudel salts are usually indicated. A pill containing aloin, strychnia, belladonna, mastich, or even colocynth or podophyllin, may be needed in obstinate constipation.

Medicines to control restlessness and sleeplessness should be avoided if possible. Hydrate of chloral, opium, bromides, valerian, sometimes increase the difficulty, and the objections to their prolonged use are obvious, and yet they must sometimes be used for a time. The bromides, with cannabis indica, valerianate of zinc, camphor, and hyoscyamus, may serve an excellent purpose for a time. Opium and its preparations, where they agree, act like magic in producing mental calm and sleep. They may relieve constipation and increase the desire for food, but the danger of the opium habit is so great that their use should be decided upon only in extreme cases, and the effect should be watched from dose to dose, each one of which should be given under medical direction. Wilful masturbation, one of the signs of loss of self-control which occurs in the best of people, cannot be corrected by drugs or appliances, but only by constant watching and by placing the individual where his self-respect, as soon as it can be appealed to, will keep him from it. If it is uncontrollable and symptomatic, fresh air and exercise, and, if necessary, bromides or opiates in moderate doses, with a tonic (not iron), should be used.

MANIA (Manie, Exaltation générale), according to Morel, meant, in the original Greek, folie or madness, while Esquirol derives it from the Greek word meaning moon, making the words maniac and lunatic equivalent. The word mania is still used in this loose way, even by writers on mental disease, as a synonym of insanity. Its use is properly restricted to conditions of mental exhilaration or excitement with motor activity. The morbid anatomy of the disease is not yet made out, and the indications of hyperæmia observed in the acute stage after death are no greater than are found in diseases in which mania is not a symptom. In its final stages atrophic, degenerative, and inflammatory signs are abundant and well marked.

Simple mania[1] (manie sans délire, manie raisonnante), an exaltation of the mental faculties similar to the exhilaration produced by too much wine, with an accelerated flow of ideas, impaired judgment, and motor activity, without definite delusions, delirium, or incoherence, has been called an insanity of action, affective insanity, folie raisonnante, and even moral insanity, from which it differs in being marked by constant mental elation and exaltation of the physical functions, and not necessarily by striking moral perversion. It is a mental erethism, an exaggerated gayety, an uncontrollable exhilaration, an unbounded joy, an excessive anxiety, a perpetual anger, unusually good spirits, increased intellectual and physical energy, with such striking loss of self-control, diminished powers of reflection, and so decided weakening of the judgment that all sorts of unwonted errors of commission or omission may be performed. Under its influence many fortunes have been lost, many reputations have been ruined, and the happiness of many families has been sacrificed before the existence of insanity was suspected, except possibly by a very few persons. Indeed, the wit is usually so sharpened, the flow of ideas often so clear and rapid, the capacity for brain- and body-work without fatigue is generally so increased, that not seldom the patient is remarked upon as being unusually well. The most troublesome symptoms arise from the tendency to squander property, to drink alcoholic liquors to excess, and, especially in women, to allow the exalted sexual desires to get control of the judgment and reason, thereby bringing about unfortunate marriages or scandalous relations with the opposite sex. In women there is commonly increased menstrual flow.

The course of the disease is without material change, and the duration is from several weeks to a number of years. When it does not constitute the initial stage of other types of mental disease, especially severer forms of mania, circular insanity, general paralysis, or (in the neuropathic constitutions and at the critical ages) mental degeneration, the termination is in recovery in about 90 per cent. of the cases, although sometimes some moral impairment or deterioration in character remains for life. The recklessness incident to the disease leads to unusual risks, now and then to fatal accidents. Simple mania rarely becomes chronic.

TREATMENT involves the necessity of proper control to prevent scandals, disasters, and perhaps crimes. The matter of the degree of seclusion and control should be governed by the general considerations already mentioned in the general treatment of insanity, bearing in mind that

[1] Also called by some writers moral insanity, folie morale, folie des actes, folie or manie instinctive.

repression of the motor energy, except to prevent exhaustion, does harm. The demand for food is enormous; its supply should be abundant and judiciously chosen with reference to easy digestion. Frequent prolonged warm baths and cool applications to the head are indicated, and the usual palliatives for headache, sleeplessness, constipation, etc. The surroundings should be such as to favor rest and undisturbed sleep, and to dispel sources of excitement, whether they arise in certain associations, localities, occupations, or persons.

Acute mania (Tobsucht) follows an incubative stage of simple melancholia, often of simple mania, and rarely bursts out without previous indications of disease. Delusions, unsystematized and illogical, are abundant; the ideas flow so rapidly that the mechanism of speech is not adequate to their expression; the motor excitement is intense. In the most severe forms there is mental confusion, delirium, incoherence of ideas, and furious muscular action, to the point often of acts of destructiveness and self-injury. The clothing is torn to shreds, and no act of violence is too wild not to be attempted without warning. The skin is hot, the tongue heavily coated, the pulse accelerated, the temperature elevated, more, probably, than would be accounted for by the physical activity—from one to two or three degrees—now and then, in conditions of exhaustion, a little below the normal. Just as there is liable to be maniacal frenzy in the course of severe melancholia, so in acute mania outbursts are seen of desperately suicidal melancholic frenzy. Unless great care is used to keep up the strength, and often in spite of it, exhaustion rapidly sets in, under the influence of which the symptoms are very much aggravated. The amenorrhœa in women in this condition is conservative.

The COURSE AND DURATION of acute mania vary within wide limits, with an average of not far from six months, with recoveries in about 60 per cent. of first cases uncomplicated by pneumonia, chronic disease, or a marked neuropathic state: 5 or 6 per cent. die, chiefly from pneumonia, phthisis, accidents, or exhaustion, seldom suicide. Incurable cases drop slowly into dementia or into chronic delusional insanity, the motor excitement subsiding. The delusional insanity may be simply a stage in the process toward dementia.

In the DIAGNOSIS of acute mania, unless great care is used, the physician sometimes finds that he has sent to the asylum a case of acute, especially infectious disease, in the early stage and with unusual manifestations of febrile delirium. The indications for avoiding this unfortunate mistake are care and time in making diagnoses.

In the TREATMENT of acute mania the matter of foremost importance is that the physician should be able to sufficiently control his patient to prevent harm, and that he should have him in such a place as to give him an abundance of fresh air, unhampered by annoying and irritating limitations of his free will, restrictions of his liberty, and repression of his motor excitement. The risks of injury to others must be reasonably provided against. It goes without saying that few homes meet these indications: very few people can command a house to be converted into a virtual hospital, with the care of trained physicians to direct every little detail of treatment, and proper nursing. The public asylum, therefore, or the private retreat must usually be depended upon. In the case

of quiet young people, especially of young women whose illness may be of such a nature as to justify their marrying after recovery, and in the acute mania following childbirth, it is well worth the physician's while to make an effort to keep the patient in a private house when the conditions are such as to make such a course practicable. To the rest and quiet which may be had under such circumstances, with all the goings on of the house regulated to the patient's comfort and convenience, to prolonged hot baths, a full simple diet, given with the stomach-tube if necessary, as few medicines as can be got on with, the supervision of the nurses by some judicious member of the family, and the gentleness (combined, of course, with proper firmness) of home-influences, I attach very great importance in properly selected cases. But I attribute as much to the restful influence of keeping the patients among familiar scenes, and where some familiar face and voice can reassure them in their comparatively clear moments, instead of their being agitated and distressed to know how to account for the strange people and cell-like room of the insane ward to which they will awaken from their delirium in the hospital. It is something to avoid the excitement of commitment and removal to an asylum, with all that they involve, as well as the sight of demented patients, whose noise may make sleep impossible just when it is most needed. Acute mania seems to me to arise much less often than other mental diseases in definite associations which need to be escaped from for successful treatment.

The term subacute mania is used by some writers for the milder cases of acute mania, just as acute delirious mania is a term which is applied to those violent cases of acute mania in which furious and prolonged delirium marks the disease, and in which there is a high death-rate and low proportion of recoveries.

In chronic mania the motor excitement, mental instability, and, sooner or later, delusions, if not present at the beginning, as is usual, continue. The progress to dementia is commonly slow, and there are few cases which it is wise to treat away from an asylum or its dependencies on account of the possible danger to others from sudden exacerbations of the disease or through uncontrolled violent impulses.

Although there is no pathological condition distinctive of mania in its curable stage, conditions indicating hyperæmia are usually found, whether as a result of the disease or its underlying cause, and sometimes meningitis. In chronic mania there is in the terminal stages evidence of atrophic and degenerative changes which do not distinguish it from other forms of mental disease.

Acute Delirium is the typhomania of Bell. Its prevailing mental state is of mania oftener than of melancholia. It resembles the worst cases of typhoid fever so closely, and it is so uncommon a form of disease, that the mistake has often been made of sending typhoid-fever patients to insane asylums. The mistake is unnecessary, as the clinical features of typhoid fever are so well marked that with sufficient care and delay they may be recognized if the physician does not commit the common error in mania of being too much afraid of his patient to examine him thoroughly. The tendency to exhaustion in acute delirium is rarely successfully combated, as the motor excitement is so intense and the delirium so furious that nourishment to meet the tremendous demands of the

system can seldom be given, and death is the usual result. Recoveries are rare, but less uncommon in the melancholic than in the maniacal form.

Little need be said in the way of TREATMENT, except that in so speedily fatal a disease it is well to keep the patient at home, if he can be properly cared for there.

TRANSITORY INSANITY is used by Krafft-Ebing[1] (Transitorisches Irresein) as indicating mental disease differing from other insanity only in the fact that it is of short duration—namely, from two to six days. If it is applied to sudden and transient outbursts of mania, with delirium, loss of power of self-control, and inability to clearly recollect the circumstances of the attack and what happened during its continuance, it is a rare disease, occurring for the most part in epileptics and in persons under the influence of alcohol or addicted to its habitual use. It is sometimes, under the latter-named condition, called alcoholic trance. It consists in an automatic state resembling the epileptic delirium, which may occur also in sleep and resemble somnambulism. The actions are guided by co-ordinated will without conscious intelligence, and may consist in crimes and brutalities and foolishness entirely inconsistent with the character in health. It seldom lasts more than a few hours. When caused by alcohol or as a symptom of epilepsy, it may occur without other marked inciting cause; otherwise it is commonly due to mental shock. Several cases happened during the mental excitement of the first battle in our civil war. The most striking case within my own experience was that of a man who under the strain of prolonged grief and the mental shock of a great fire destroying a large part of the town in which he lived, perhaps moderately affected by alcohol, suddenly grasped an axe and cut off with one blow the head of a beloved child. He was found in the street without knowing how he had got there or what he had done.

One attack is the rule, although several, probably of an epileptic nature, have been reported. It is an extremely difficult condition to diagnosticate with certainty, and is therefore often the refuge of criminals and a resource of criminal lawyers. The most likely honest mistake liable to be made regarding it is to confound it with an outburst of passion.

PRIMARY DEMENTIA (Acute dementia, Stuporous insanity, Anergic stupor) is a disease chiefly of youth and early maturity in persons of inherited weakness or under the influence of prolonged exhausting conditions, to which some mental shock usually adds the immediate cause. Although most of the cases are under the age of twenty-five, it occurs up to forty-five. Masturbation is so common a symptom in its course—and it may be one of the debilitating and enervating factors constituting a predisposing cause—that most of the primary dementia is classed in some asylums as insanity of masturbation. There may be an initial stage of a number of days, marked by moderate melancholia or by maniacal excitement, but there is usually mental torpor advancing rapidly to pronounced dementia. In rare cases there is marked chorea, and slight choreic movements are often observed. The course of primary dementia may be subacute and advance with extreme slowness.

There is no overwhelming delusion paralyzing the mind, so to speak, as in melancholia attonita (melancholia with stupor). In acute cases the brain quickly falls into a state of profound anæmia, precisely such as is

[1] *Irrenfreund*, 1883, p. 113.

found post-mortem in starved dogs, and loses its power to a greater or less extent of reacting to the stimulus of the senses. There is little or no sensation of hunger, the sensory nerves are nearly or quite paralyzed, the bladder and rectum become distended until urine and feces are voided unconsciously or at least uncontrolled, and voluntary movements almost cease, although the muscles are capable of acting if directed: if led or pushed, the patient walks; if placed in a chair or bed, remains there; and in the worst cases lies on the floor quite inattentive to all the decencies of life unless constantly looked after. There is always partial, and there may be complete, anæsthesia, to such an extent that even the involuntary muscles do not respond to the ordinary stimuli. There is rapid loss of flesh, very sluggish circulation, and feeble heart-action. After recovery the patient speaks of the stage of his greatest illness as a blank in his memory.

This description of pronounced cases of primary dementia of the most severe type needs modification as applied to milder cases, which may exist in all degrees, down to a state of mental impairment of very moderate extent.

The mental impairment may be progressive and quite incurable, but also so slight in the beginning, and may make such slow progress, as to entirely escape detection for several years, and then attract attention at first by the lowered plane of character and loss of self-control in little matters of daily life, rather than by the intellectual deterioration, which by that time has become quite marked. This subacute form of primary dementia in young people rarely finds its way into the insane asylum until the second, third, or fourth year of its course, and then its progress is slowly downward. It has none of the eccentric or grotesque features of hebrephrenia, and little of its emotional disturbances.

Subacute primary dementia in the later years of maturity, just before or several years before the climacteric, is of grave import, as it indicates the development of an hereditary predisposition to insanity in a form which not only offers no reasonable hope of recovery, but also is quite certain to manifest a change of character which is even more difficult to treat and properly control than the intellectual failure. As it is most likely to arise under circumstances of wear and worry, its symptoms may be for a long time attributed to disappointment or bad temper. After the dementia becomes pronounced its downward course is seldom otherwise than very rapid.

Secondary Dementia is a convenient name for the curable dementia which appears at the subsidence of acute symptoms occasionally in mania, and rarely in melancholia—that is, just about the beginning of the period of convalescence. It is also called secondary stupor.

In primary and secondary dementia, resulting in recovery, the progress of the disease is rarely otherwise than very rapid, and unless a cure takes place in a few months at the outside, secondary changes occur in the brain and the tendency is to terminal or incurable dementia. So many cases are treated outside of asylums that it is difficult to estimate the cure-rate, but it is probably not less than 60 or 70 per cent., although it is quite common in the apparent cures for the brain to remain on a lower intellectual or moral plane than if the disease had not occurred.

Treatment does not involve the necessity of removal from home in

the acute cases, except when that is demanded for convenience of treatment. There is no melancholia to suggest the possibility of suicide, and no mental exhilaration or motor excitement to make restraint necessary. The most important indications are met by abundant, easily-assimilated food, which must usually, for a time at least, be given with a spoon or by the stomach-tube; fresh air, attention to the processes of digestion, relief of the gastro-intestinal catarrh by the usual remedies, stimulating baths, tonics, stimulants, and general galvanism. Proper care in emptying the bladder and rectum and entire cleanliness will suggest themselves.

In mild cases a tonic and stimulating regimen, including sea-bathing and gymnastics, will often be sufficient.

In the subacute cases young people are easily depressed by the asylum associations, but there is usually a time in the progress of the disease when home-discipline is too weak for them, and they must be sent away; older people have usually complications in their home-life such as to make a change desirable for the comfort of the household. Recoveries are extremely exceptional.

In all cases there is little to be gained in keeping up home-associations for so disturbing, distressing a disease after there is pronounced dementia.

Medicines, other than tonics, are of little use, except opiates to control various distressing nervous symptoms, including masturbation, but they should be used with great caution.

KATATONIA (Katatonie of Kahlbaum; Katatonische Verrücktheit of Schüle) presents, with more or less regularity of appearance, symptoms of (1) mild melancholia without the characteristic mental pain; (2) mental excitation, sometimes ecstatic, with cataleptiform conditions; (3) confusion and torpor or apathy. There is an underlying well-marked intellectual impairment, slowly advancing in incurable cases to pronounced dementia. Delusions, more of the unsystematized than of the systematized character, but resembling both, constitute a prominent part of the disease from the beginning. Verbigeration and a curious sort of pomposity are usually found in more or less pronounced degree. The delusions are mixed. They are exalted, hypochondriacal, melancholic, with all sorts of self-accusation, and may be full of suspicion, fears of poisoning, and ideas of persecution. Hallucinations of the special senses and illusions are not uncommon. If the term katatonia is not used, or at least if a special place in the nosology were not given this disease, it would be difficult to know whether to class these cases as primary dementia, melancholia with delusions, delusional insanity, or confusional insanity.

The verbigeration, when it exists, and the expression of delusions are often associated with a manner on the part of the patient suggesting disbelief in them, and sometimes the patient smiles or laughs at the astonishing character of his statements. There is a self-conscious element at times, suggesting mimicry or hysteria; a certain pathos is universal; opposition and contradiction, even to refusal to eat, leave the bed, dress, wash, are quite common; and nurse and physician are tired out with the monotony of the mental and physical state. Well-marked catalepsy is not common in my experience, although it occurs; and in all cases I have seen the mental state and physical atony suggesting that condition. Little attention has as yet been given to katatonia in asylums in this country. Judging from my own experience, it is not a common disease.

Its CAUSES apparently lie in prolonged mental exhaustion and inattention to bodily health. I have been led to suspect syphilis as at least a predisposing cause.

The COURSE AND DURATION of katatonia are tedious, and even if there is apparent recovery from the first attack, the tendency is to relapses and to slowly-advancing dementia and death from those causes of which dements in hospitals die, especially phthisis. I have never seen a complete and permanent recovery.

The MORBID ANATOMY of katatonia suggests a deep-seated neurosis, the precise nature of which we do not understand. In terminal stages there are atrophy and degeneration and all that goes with them.

The CLINICAL HISTORY of katatonia is so characteristic that it need be confused with the other diseases already mentioned as simulating features of it, and with the early stage of general paralysis, only through insufficient observation or too hasty diagnosis.

It is difficult to treat katatonia without the conveniences of a hospital.

PRIMARY CONFUSIONAL INSANITY is a term recently introduced for a form of mental disease of which the most marked features are moderate fever rapidly developed, confusion, incoherence, and mild delirium. The onset of the disease is rapid. In some of the cases which I have seen the diagnosis was made of typhoid fever, although the clinical marks of that disease were absent, the general appearance of the patient in the two diseases being quite similar.

There is no real melancholia or exaltation, no rapid flow of ideas, and no dementia. Hallucinations of the special senses are common; there is a consciousness of illness; the delusions are unsystematized, and the confusion of ideas frequently goes to the point of not being able to recognize persons and places. The usual signs of fever are present for a few days, but the temperature rarely exceeds 102° F., and soon drops to nearly or quite the normal.

The COURSE of the disease is quite rapid, and if recovery does not take place in several weeks or a few months, chronic insanity with delusions or dementia of various degrees may be expected.

The MORBID ANATOMY is not distinctive of this condition in the early stage, and we cannot yet differentiate it from simple fevers by the post-mortem. If ending in incurability, the atrophic and degenerative changes of chronic mental disease are found.

As regards removal from home, the considerations already referred to should be the guide. It is a good rule to keep the patient at home if a suitable one for the purpose, and to resort to the asylum in case of chronicity or troublesome complications.

PRIMARY DELUSIONAL INSANITY (Folie systematisée, Verrücktheit[1]) differs from secondary delusional insanity in the facts that the disease arises primarily, and not secondarily to other mental diseases; that there is little or no mental enfeeblement in the early stage; and that the delusions, although fixed and systematized, are limited. It has the advantage of allowing the avoidance of the misleading terms monomanie of the French and monomania of English and American writers, the narrower forms of which may be included under the term primary insanity (primäre Ver-

[1] Called also by some writers Wahnsinn, although they use the term for secondary delusional insanity also.

rücktheit), including the further developments of the neuropathic constitution, especially those with the physical marks of degeneration described by Sander as originäre Verrücktheit, and those marked by imperative conceptions and such delusions of self-importance, suspicion, etc. as seem to some people evidence of insanity, while by others they are considered as simply false beliefs not indicating mental disease. Unlike primary insanity, which is one of the states of mental defect and degeneration, and incurable, primary delusional insanity may occur in persons of healthy mental organization, and may end in recovery,[1] although it is one of the most distinctly hereditary forms of insanity, generally speaking.

There are several subdivisions of primary delusional insanity, according to the character of the delusions: (1) with delusions of unseen agency, suspicion, and persecution; (2) with delusions of personal exaltation; (3) with delusions transformed from sensations.

Delusions of unseen agency, suspicion, and persecution appear either acutely and expand very rapidly in a few weeks, or from a very insidious beginning so gradually that they may exist for months or years before they are detected. The general indications of illness consist in impaired sleep, slight loss of flesh, some reserve or shyness in relations with other people, and diminished ability to concentrate the mind in the usual occupations. The mental impairment at first is very slight, and shows itself (1) in the readiness with which the absurd delusions are believed and the fixedness of their hold on the mind, and (2) in the diminished general power of judgment and self-control in the little matters of daily life, at first so slight that it is not seen except in matters requiring some effort to maintain the customary equilibrium. Hallucinations, especially of hearing, appear. In the progress of the disease the mind loses power of self-control more and more, the delusions become more fixed, concealment is no longer possible, and the patient is so annoyed or angered that he repeatedly seeks relief from the courts (Querulantenwahnsinn) or commits some act of violence in self-defence. The common delusions are of marital infidelity, attempts at poisoning, mesmerism, electricity, influence through telegraphs, telephones, poisoned air, etc., signs of which are evolved directly from the consciousness or transformed from common sights and sounds, such as ringing of bells, striking of clocks, simple ordinary motions, etc. The delusions in time produce a state of mental depression.

In some cases the primary delusion is of personal exaltation, attended with persecution and mental depression. The individual thinks himself some great personage unjustly deprived of his rights.

Delusions of grandeur or of personal exaltation develop in the same way, usually subacutely from what might seem a foolish fancy rather than an insane belief. The Napoleons, kings, queens, greatest financiers, gods, etc. of the insane asylums are those who reason correctly if one concedes the truth of their false premises, until the progress of the disease produces such general brain-enfeeblement that their premises and their

[1] Some writers include both diseases under the term monomania, and make both incurable degenerative states, which is contrary to my experience. Clouston also has seen cures in what he calls monomania (primary delusional insanity) without the neuropathic taint.

reasoning from them are both insane. The delusions lose their fixedness, and their force too, in the general lowering of the mind's strength, and complaints and boasts and acts of anger become fewer, and finally cease.

The COURSE of the disease is nearly always subacute in the beginning and chronic to the end in the two forms of primary delusional insanity—that is, with (1) delusions of persecution and mental depression, and (2) delusions of grandeur. A few cases with acute development result in recovery, most of which relapse. The course is for the most part to chronic delusional insanity attended with moderate dementia.

The MORBID ANATOMY is not known, except that atrophic and degenerative changes—not distinctive, however—are found in the terminal stages.

The patient is rarely willing to be treated as an ill person, for he is sure of the correctness of his delusions. If during the first attack he can be entirely removed from his daily associations by change of scene and travel, or, if that is not possible, by admission or commitment to an asylum, before the delusions become fixed and while it is still safe for him to be at large, there is reasonable chance of recovery. Second or third attacks very seldom end in recovery unless they arise from alcoholic excess, when entire abstinence for a sufficient length of time affords fair hope of a favorable result, except in cases of long-standing drunkenness.

TREATMENT, when the delusions have become fixed, involves, chiefly, safety to society or its comfort. The patients rarely commit suicide, driven to desperation by their delusions of persecution when they are particularly horrible. The more common tendency is to acts of violence toward others, so that seclusion in an asylum is usually the only safe course to pursue for delusions which one week may be directed against certain persons who can easily be gotten out of the way, the next week may be directed against others, and so on indefinitely. Delusions of grandeur may be only a nuisance or annoyance, but may at any time become sources of danger. The course is, for the most part, to slowly-advancing dementia. Asylum treatment offers no chances of recovery in cases not depending upon alcoholic excess, but becomes necessary for the protection of society.

Transformed delusions (sensorielle Verrücktheit) arise usually in some anomaly of sensation, which probably directs the delusions already forming in a mind in the early stage of disease rather than causes the disease. The causes lie in a deep-seated exhaustion of the nervous system, especially in the neuropathic constitution and profound hysteria. Various anomalous sensations give rise to a belief in delusions as to their being caused by individuals for a purpose, or to their being an indication of all sorts of impossible and most extraordinary changes in the part: the chest is of stone, the leg of brass, the head on fire, the hand ice, and so on indefinitely. Hallucinations and a cataleptiform state are common. The variety of delusions which may arise is almost endless, and they may have their origin in the unhealthy action of any organ in the body: one of the most troublesome forms, called ovarian insanity by Skae, causes single women of severely continent lives to imagine all sorts of impossible marital relations with men whose lives are equally beyond scandal and above suspicion.

Without proper care the COURSE of the disease is to slowly-advancing

dementia; and this may be expected when there is organic disease of any important organ of the body.

Before the delusions are fixed, diversion, change of scene, travel under agreeable circumstances and judiciously regulated, may be of great benefit. In the later stage of firmly-fixed delusion asylum treatment offers more chances of success.

In all the forms of primary delusional insanity the whole history of the case is difficult to get at, and there may be, and usually is, so strong a tinge of possibility at least, if not of actual probability, in the delusions, in the early stage of the disease, that a correct diagnosis cannot be arrived at until the time and opportunity for a cure have passed.

Doubting Insanity (Folie du doute, Maladie du doute, Grübelsucht) is classed by Régis[1] as a form of melancholia (mélancolie délirante), on the ground that it has the three elements of melancholia—namely, fixed ideas (délire) of a sad nature, general mental depression, and tendency to suicide. The melancholia is secondary, however, rather than primary, and doubting insanity belongs more properly under the head of a psycho-convulsive mental disease closely allied to delusional insanity, like which it is more commonly a manifestation of psychoneurotic heredity, appearing for the most part among the cultivated classes. It consists in an uncontrollable doubt and indecision, unanswerable by any degree of rational explanation, regarding the occupations, duties, or events of the day, religion, a future life, the commonest acts, or the most abstruse problems of life. Doubting insanity essentially depends upon an anomalous action of the will, with imperative conceptions and impulses. It is classed by some writers as a monomania of the degenerative type. Schüle calls it Verrücktheit sensu strictiori, using the term Verrücktheit also for the three forms of primary delusional insanity just described.

Délire du toucher, an insane dread of touching certain objects, and the morbid fear of defilement, called by Hammond mysophobia (similar names may be multiplied indefinitely), belong in the same category.

There are mild cases of all these forms of disease, which seem like simple weakness of character, others requiring for treatment the conveniences of the retreat for nervous and mental diseases, with a fair prospect of recovery, and still others tending to chronicity in which hallucinations, delusions, and dementia appear only as a further development into another form of insanity. They may, in mild degrees, be symptoms in the course of other mental diseases, especially melancholia, like many other manifestations of morbid mental energy; such as Doctor Johnson's inability to enter a room with his left foot first or to pass a lamp-post without striking it with his cane, etc.

Primary Mental Deterioration or Primary Brain Atrophy is a term suggested for a curable impairment of the mind arising from brain-exhaustion in persons, usually men, between the ages of from fifty-five to sixty-five. I have found it in some cases associated with interstitial nephritis and with degenerative disease of the walls of the heart, and have suspected atheroma of the cerebral arteries or possibly endo-arteritis of specific or other origin. It occurs at a time when atrophy of the brain is naturally taking place. There are the usual indications of physical wear and such marked deterioration of the mental powers as to

[1] *Manuel pratique de Médecine mentale.*

seriously interfere with the capacity to attend to customary business and every-day duties, and to closely simulate the early stage of paralytic dementia. There occur also, in a certain proportion of cases, epileptiform convulsions, slight attacks of dizziness, petit mal, and always disappearance of sexual power and desire. There may or may not be headache. The patient recognizes his condition, his mental depression does not far exceed the physiological limit, and there is no reasonable risk of suicide, except from reasons which would impel a sane man to it.

Under the influence of rest, if begun early, tonics, and a strict regard to the laws of health the symptoms commonly disappear if there is no organic disease. I have never seen the brain recover its tone to the extent of making it safe or even possible to resume the previous kind and amount of work. In a certain proportion of cases there is striking mental impairment, even dementia, and the primary atrophy of the brain sometimes makes rapid progress to unconsciousness and death.

It is not possible to say, by the degree of atrophy found post-mortem, whether there was or was not primary mental deterioration during life.

The TREATMENT consists in entire freedom from care, rest from work, travel, tonics, etc.

As mental disease is more than a brain disease, and is a disease of the intellect, each age from infancy up (and each individuality) impresses its peculiar mark upon it, and there are certain terms in common use to express insanity associated with certain physiological processes whose meaning should be explained.

INSANITY OF CHILDHOOD is for the most part only a further development of a congenital state of mental defect. I have seen, however, well-marked mania, melancholia, primary dementia, and primary delusional insanity before the age of puberty. Typical acute mania I have seen twice in children two years old, apparently arising in normal brains after severe injuries to the head. This is quite uncommon, and the number of cases thus far observed is too few to make me feel sure that my own experience of a favorable result as to recovery in uncomplicated cases will be generally confirmed. At best, after a cure there is a more or less decided arrest of brain development.

HEBEPHRENIA (insanity of pubescence and adolescence) occurs within the ages of fourteen and twenty-three or thereabouts. Like insanity in general among persons in early life, it most commonly indicates an hereditary predisposition to mental or nervous diseases or an early-developed brain defect or injury, possibly an exalted emotional state or an increased nervous sensitiveness produced by masturbation. It is a mild form of primary dementia, modified by the mental changes going on during adolescence. Indeed, it is simply an exaggeration and prolongation of the curious psychological development of that period, too well known to need description, which goes on in the most insidious way possible through months or years of what seems silliness, absurd fancies, foolish sentimentality, egotism, impaired common sense, and diminished judgment and self-control, to a slowly-advancing dementia, which even then is not always recognized as disease. The result is an arrest of brain development on various planes of intellect, and a preservation of the youth's tastes and sense and intelligence, as modified by the morbid propensities characterizing an unhealthy development of the change from boyhood or girlhood and

youth to adult life, with the adult's strength—a curious combination of intellectual brightness, it may be, with lack of mind. For this characteristic condition Westphal uses the expressive term Permanenz der Flegeljahre (permanence of the usually transitory state, which then commonly results in permanent arrest of brain development on the plane of the mind at a definite age of adolescence); and yet there may be more than that—mental deterioration, which in years may lead to pronounced dementia. Cases of primary dementia occurring within the years of puberty and adolescence are often classed as hebephrenia and conversely, so that one term, primary dementia, is thought sufficient by many writers on insanity.

In the early stage there is sadness, hardly amounting to melancholia, and it usually constitutes an important symptom to the end, although, like all the other changes in the mental state, it is superficial to the extent of at times seeming almost insincere. Masturbation is common. Occasional outbursts of violence are also common, often with mental confusion, incoherence, or stupor, and in severe cases there occur, usually, attacks of temporary fury, with distressing or agonizing hallucinations of sight and hearing, and delirium, which may all last for a very short time or for a number of days. In young women and girls these outbursts may be coincident with menstruation or in the intervals. The countenance loses somewhat in expression in all cases, and becomes almost vacant or quite so in those in which the dementia becomes well marked. A mild form of the disease is quite common, and consists in an undue intensity or a prolongation of the curious psychological phenomena commonly observed during adolescence. It is marked by aimlessness, changeability, self-assertion, exaggerated self-consciousness, with, perhaps, propensity to lie or steal or run away from home, and ending without any apparent damage to the mind, except that the individual is less of a success in life than he would have been but for his illness.

The course is slow, and although in the majority of cases mental impairment is arrested before reaching what may be properly called complete dementia, in well-marked cases the duration of the disease is long and its results last for life. In many cases progress continues with extreme slowness to extinction of the mental faculties. Oftener the individual simply, in a certain sense, fails to reach that stage of intellectual maturity and strength which he otherwise would have attained. It is not always easy to draw the line between the psychological and the pathological changes that take place during the years of adolescence, and there are many mild cases of hebephrenia in which various kinds of failure in life are due to this disease rather than to the faults or vices to which the failure may be attributed.

In TREATMENT irritability, restlessness, absence of a power and sense of responsibility, and sleepless, excitable nights, are the most difficult symptoms to combat. The restlessness and irritability often lead to refusal to be reasonably controlled and to a tendency to wander away from home with theatrical displays, so as, in the case of girls particularly, to require restraint, especially if the excitability should be so great as to amount to outbursts of violence or should lead to sexual improprieties.

The fact should be borne in mind that there is a diseased brain which needs nutrition, rest, and discipline, which must be proportioned to suit each case. Outdoor, simple life, with sea-bathing, carefully-selected diet,

without too much meat, exercise, mental training limited to the requirements of each patient, are the chief reliances. Iron, cod-liver oil, and arsenic are useful tonics. Stimulants, including tea and coffee, should be avoided. Quiet nights and necessary repose can be secured by bromides, exercise, and opiates used sparingly, which also control the impulse to masturbation. A sound education, a healthy experience of the rough and tumble of youthful life, and the careful avoidance of processes and habits of indulgence will often prevent the symptoms of disease from growing into traits of character and habits of life. On the other hand, in some cases there is a half-conscious struggle between the fine traits of character and the demoralizing influences of the disease, and a most pathetic effort to keep the better nature's supremacy over the lower impulses set free or developed by the destructive tendencies of a fearful malady.

Menstrual Insanity differs from other periodic insanity in not being necessarily a further development of an hereditary or acquired state of mental degeneration, and in being curable in a fair proportion of cases.

Insanity of Gestation, Puerperal Insanity, and Insanity of Lactation do not call for any further comment than the remark that they represent causes and conditions rather than types of disease.

Climacteric Insanity in women and in men is usually a curable folie raisonnante—insanity of action or affective insanity, which may develop into secondary dementia or chronic insanity with delusions. It does not necessarily include all acute forms of insanity occurring at the climacterium, but only those slowly developing with the physiological changes going on.

The course is usually subacute, the duration a couple of years or more, and the termination in about half the cases is in recovery. Permanent change of character and further progress to incurable insanity are perhaps about equally common.

Treatment consists in a sedative and fattening diet, simple, healthful conditions of life. Removal to an asylum or some form of restraint is needed where the conduct is such as to demand seclusion and control.

Senile Insanity arises in suspicions and a generally deluded state of mind regarding those persons whom there is every reason to trust—namely, relations and near friends—and as extraordinary credulousness of designing persons whose interest and character would naturally suggest being on the guard against them. There is impaired judgment, as shown by the mismanagement of property and diminished capacity for business, usually some perversion of the sexual instinct. The suspicions and credulousness in time amount to insane delusions, and if life lasts the end is in marked dementia. But there may be no mental impairment evident to casual observers or to ordinary acquaintances for many years. The improper relations assumed with the opposite sex, the neglect or abuse of those nearest by ties of blood, the squandering of property on strangers, and the omission to provide properly for the members of the family, are wrongly attributed to a character become bad rather than to destructive brain disease, where they belong. Not seldom senile insanity is a moral insanity, and shows itself by an entire change of character not explainable by other circumstances than disease, and is then marked by

indecent exposures, loss of the fine sense of the decencies and proprieties of life, destruction of the discriminating power between right and wrong acts.

The course of senile insanity is slow, unless there be also some fatal disease with it, and evident mental impairment may be so late that the disease may be overlooked for years.

The TREATMENT is abundant nutrition, including wine, removal from irritating conditions of life, protection of the individual against himself, and guarding the community against harm or indecencies. Small doses of morphia daily are often of great benefit, and there is no real danger of acquiring the opium habit if reasonable discretion is exercised in its use.

SENILE DEMENTIA is simply an excess of the natural mental weakness of old age out of proportion to the bodily state, an exaggerated childishness of senility to the extent of producing irresponsibility. It is in reality a subacute primary dementia modified by the peculiarities of old age. Memory fails first, and a condition of general weakness of mind follows rapidly afterward. Secretiveness, suspicions, delusions, and hallucinations of the special senses are almost always present.

It is not uncommon for the early symptoms to consist in an inhibition of the higher faculties of the mind, so that the lower impulses become prominent. The sense of right and wrong and the moral perceptions may become entirely weakened. Acts of indecency, dishonesty, injustice, depravity may follow impaired judgment, and yet so far precede strikingly perverted memory and general intelligence as to make the insanity, which is obvious to an experienced observer, entirely fail to impress itself upon the minds of the community.

The TREATMENT consists in caring for the comfort of the patient, which can usually be done at home or at least in a private family, unless there are persistent impulses requiring the control of an asylum. The preparations of opium are useful to control extreme restlessness, and may be given freely, avoiding narcotism. A bland diet of fattening food is best suited to the wants of the aged. A simplified life often serves every purpose, especially in the quiet of the country, although it is best not to remove them from familiar scenes unless as a matter of necessity.

Complicating Insanities.

Complicating insanities simply add to the usual symptoms of the special forms of mental disease many of the characteristics of the particular disease, rheumatism, gout, phthisis, organic diseases of the heart, etc. Choreic movements depend upon the same pathological changes as are found in the sane, and certain diseases are attended with such profound changes in the nutrition of the brain as to give rise to mental impairment, which amounts to almost extinction of the mind, such as myxœdema and chronic nephritis. Acute mania occurs in the last stage of Bright's disease, which may be difficult to differentiate from uræmia. Mania, melancholia, and delusional insanity occur in the course of acute febrile diseases or appear during the period of convalescence; in the latter case the prognosis is much more unfavorable than in the former. The close

alliance between insanity and pulmonary consumption is a matter of frequent observation. The two diseases are interchangeable, and they often coexist. The relation between rheumatism and insanity is less close.

Insanity from Specific Poisons.

Maniacal symptoms have been reported from the use of various drugs, including iodoform, mercury, etc. Hasheesh dementia is not uncommon in the East. Acute delirium arises from hydrate of chloral and the preparations of opium analogous to acute alcoholic mania from excessive drinking, and chronic impairment from their prolonged use. Bromide of potassium rarely produces symptoms similar to those of mania; taken for a long time in even moderate doses, it tends to mental sluggishness, and in long-continued large quantities given uninterruptedly there is a danger of well-marked dementia.

All of these conditions may be prolonged beyond the usual action of the particular drug or give rise to symptoms in excess of those usually observed. The characteristic indications of the particular drug, sometimes marked by the combined use of several, will be found if they are carefully looked for.

The TREATMENT consists in breaking off the bad habit gradually or abruptly as each case may require, and in otherwise treating the persisting symptoms in accordance with the general principles already stated in considering the various mental diseases.

ALCOHOLIC INSANITY includes mental disorder from the use of alcohol in both the acute and chronic forms.

Acute alcoholic mania may come from a single excess in drinking, which in some individuals is always attended with maniacal symptoms. It may constitute the alcoholic trance described under the head of Transitory Insanity. From long drinking and exhaustion or by withdrawal of the accustomed stimulant we may have the familiar mania-a-potu or delirium tremens.

Under the prolonged use of alcohol primary delusional insanity, melancholia, mania, and dementia occur.

From long-continued drinking of alcohol, even to slight excess, for many years, it is rare not to find some mental impairment, if only an "uncontrollable violence of the instincts and emotions," a sort of moral insanity.

The PROGNOSIS is more favorable than in most forms of insanity uncomplicated by the abuse of alcohol, especially in the case of primary delusional insanity, if the bad habits can be effectually corrected and if the alcoholic excesses have not been continued long enough to produce organic changes in the cerebral blood-vessels. In the latter case the dementia sometimes simulates that of general paralysis so closely as to be called pseudo-paralytic dementia from alcohol.

TREATMENT is rarely successful outside of some asylum.

SYPHILITIC INSANITY does not properly include those cases of mania, melancholia, and delusions of persecution of the ordinary type of which the exciting cause is found in the train of thought aroused and kept up by the consciousness of having contracted syphilis, but only such as

depend upon the presence of the syphilitic poison in the system. There are no diagnostic marks to distinguish it from insanity not caused by syphilis, except in a certain proportion of cases of organic syphilitic disease of the brain.

The PROGNOSIS is rendered much less favorable from the fact of the syphilitic cachexia.

In addition to the usual means of TREATMENT for the several forms of insanity, the appropriate measures for syphilis should also be tried, except where there is evidence of diffuse organic disease.

Organic Mental Diseases.

GENERAL PARALYSIS OF THE INSANE is a disease marked by definite pathological changes in the central nervous system, chiefly in the cortex of the brain, but which may extend to any part of the cerebro-spinal tract or to the sympathetic ganglia and cranial and spinal nerves. Its constant symptoms are—(1) vaso-motor disturbance ending in vaso-motor paresis; (2) mental impairment, which makes progress, for the most part unevenly, to complete terminal dementia or extinction of mind; (3) impaired muscular control, which advances more or less uniformly to almost entire paresis or nearly total paralysis. Expansive delusions, the delirium of grandeur, megalomania (which may change suddenly to micromania), or simply a feeling of elation, happiness, self-satisfaction, or undue complacency, are found, but often not until or near the end. The other symptoms vary in individual cases within a wide range, so as to simulate almost every form of insanity; and it is quite possible that they include what a more exact pathology will hereafter recognize as several distinct diseases.

SYNONYMS.—General paralysis is also known as general paresis, progressive paralysis of the insane, paretic dementia, paralytic dementia, cirrhosis of the brain, paralysie-générale, folie paralytique, démence paralytique, periencephalite chronique diffuse, meningo-myélo-encephalite chronique interstitielle diffuse, encephalite généralisée, periencephalite chronique diffuse, encephalite interstitielle diffuse, encephalite avec proliferation sclereuse interstitielle, Allgemeine Paralyse, progressive Paralyse der Irren, chronische progressive parenchymatöse Encephalitis der Rindensubstanz, pericerebritis, periencephalo-meningitis diffusa chronica, periencephalo-myelitis chronica diffusa, encephalitis interstitialis corticalis, paralytische Blödsinn, primäre Encephalitis interstitialis mit Ausgang in Sclerose. Griesinger placed general paralysis among the complications of insanity. It is popularly known as softening of the brain (Gehirnerweichung).

HISTORY.—The combination of the two series of symptoms, paralysis and dementia, was recognized by Haslam, and at the beginning of this century by French writers, who also knew their fatal import. Esquirol describes a typical case of general paralysis of the insane under the head of monomania in his *Maladies mentales*. His pupils, especially Bayle and Calmeil, have studied and described general paralysis. At the time of his first visit to England, forty years ago, the late Luther Bell had never recognized a case, and there can be no doubt of the fact that it has

rapidly increased, particularly in the last dozen or twenty years, with the rapid increase in the aggregation of the population.

Etiology.—So far as heredity is concerned, general paralysis has not such close relations with mental diseases as insanity in general. It is estimated to be hereditary, in the sense of being closely related to other forms of insanity, about one-half as often, and it is nearly allied to apoplexy and epilepsy. My own experience leads me to the conclusion that in those cases of general paralysis without a previous history of syphilis (and the same statement is true in less degree of persons who have had syphilis) the vast majority occur in families in which there have been cases of insanity, epilepsy, or apoplexy. It is rare among people living simple agricultural lives, but is intimately connected with the faults and vices of civilization—specialized overwork, involving strain in the office, study, factory, mine, etc., especially if to bodily exhaustion and brain wear and worry there be added hard living and hard drinking, sexual excesses, and syphilis. The Scotch Highlander rarely has the disease until he comes to Edinburgh or Glasgow. In Ireland general paralysis is so rare that of 9271 cases of insanity in 1882, only 6 were general paralytics, as compared with 1151 out of 13,581 in England the same year; during which, in Scotland, of 238 deaths from insanity, 10 were from general paralysis; but the Irishman has no special exemption from general paralysis in American cities or in large English towns and mines and factories, where he works hard, drinks hard, and lives hard generally. It is, so far as I am able to learn, unreported thus far among our negro population until they come to the great centres of population; it is said to have been unknown among the slaves. Among the English, Scotch, and Americans it prevails most among those people who are in, or who have dropped down to, the lower strata of society. Of 2212 private patients in England, 139, or about 6 per cent., were general paralytics, while 1012, or about 9 per cent., were found among 11,359 pauper patients. French and German writers report it as most common among the brain-workers. In women of the upper class it exceedingly seldom occurs. In some of our Western asylums not more than 1 or 2 per cent., or even less, of the patients are reported as general paralytics, coming chiefly from farms. In the asylum for the centre of the manufacturing districts of Massachusetts about 9 per cent. of the patients are general paralytics. From the iron- and coal-mines of England from 14 to 17 per cent. of the insane confined in asylums are general paralytics. It is more common in cold climates than in warm, other things being equal. From one-sixth to one-tenth of the cases, varying in different localities, are women.

General paralysis not only is most frequent in the stronger sex, but it selects the strong individuals in the prime of life, between the ages of thirty-five and fifty. It is extremely rare under the age of twenty, although Turnbull has reported an unique case at the age of twelve;[1] it is not common under thirty or over sixty; I have seen two cases in men sixty-five years old. It is seldom seen in individuals who have been weak from childhood, unless as the probable result of syphilis.

The excesses of the habits of the city and of mining and manufacturing centres, hard work, high living, late hours, predispose to general

[1] *Journal of Mental Science*, October, 1881.

paralysis in strong constitutions at the period of their greatest activity, especially if the physical strain, the violent struggle for existence, has begun early in life with insufficient food and excessive work, and if ordinary paralysis be not uncommon in the family. Alcoholic and sexual excesses are considered to be particularly common predisposing causes. Recent investigators find syphilis to be a part of the antecedent history of from one-half to three-fourths of the cases, but chiefly in those slowly advancing or subacute from the beginning. By some writers syphilis is considered to be in those cases only a diathesis, as is held by Fournier, or a debilitating antecedent, like chronic malarial poisoning. Others think that so large a proportion can be accounted for only by some specific relation between the two diseases. If the fact so often stated is true, that syphilis is rapidly increasing, perhaps part at least of the increase in general paralysis can be thus accounted for.

Mental shocks of various kinds, excessive emotional strain with mental exhaustion, and injuries to the brain, are the commonly reported exciting causes of general paralysis, but it is not certain that—in many cases, at least—they do more than hasten the pathological process and call attention to the symptoms. So far as my observation goes, the injury to the head, supposed to be the cause of general paralysis, often has appeared to probably come from an accident due to the impaired physical strength and to the vaso-motor disturbance in the brain incident to the early stage of the disease and while it was still unrecognized. Cases are observed in which no predisposing or exciting cause is found by the physician. I have seen it following diphtheria and other debilitating diseases, after long exposure to malaria, and apparently due simply to prolonged mental strain in persons otherwise living in moderation under circumstances exceptionally favorable to health.

Symptomatology and Course.—As a rule, to which the exceptions are few, the early symptoms of general paralysis are obscure. Their appearance and progress are so gradual and insidious that they are usually overlooked for a period varying from several weeks to a year or more, sometimes for four or five years, perhaps even longer. There is a slight change in character, which is frequently attributed to wilfulness or perverseness arising from some disagreeable circumstance; to want of a reasonable attention to the little affairs of daily life; to indifference, temper, carelessness, or recklessness; to a want of aptitude and receptivity having an ethical rather than medical significance; to an impaired moral sense. The patient may be observed to be simply more quiet and heavy; inclined to be depressed rather than distinctly melancholy; a little heedless; unusually indifferent, and indisposed to worry over things that formerly would have disturbed him; drowsy or dropping off to sleep at work or in the theatre; disturbing the household by his restlessness at night—in and out of bed, up and down stairs, for trivial and yet not seemingly insane reasons. He may become easily disturbed by trifles, and yet careless to more important matters. He begins to overlook, perhaps rather than forget, recent little things. His power of attention is diminished, his will weakened, his self-control impaired. He becomes less careful of the niceties and proprieties of life, less interested in his family and all that is nearest to him—self-absorbed, egotistic, indulging in inconsequent stories and remarks. Although the memory is not dis-

tinctly at fault, fresh impressions do not make their usual imprint on the mind. His moods are unnaturally changeable. A certain slovenliness in habits or carelessness in dress, an inattention to customary little courtesies and attentions, slight yet noticeable, are not uncommon early symptoms of general paralysis. There is soon observed, often noticeable to the patient, a lack of endurance, an early sense of fatigue from exertion, a sense of muscular prostration, physical discomfort, or general pains which may be attributed to malaria or rheumatism. Commonly, not always, there is disturbed sleep or restlessness. There may or may not be headache, slight or severe, transient or persistent. There may be a sense of pressure or an uncomfortable feeling about the head, especially the forehead, or it may be the seat of no pain or discomfort whatever. There may be a slight or severe local or general sensation of distress or uneasiness in the head after mental effort only. There is often pain, anæsthesia, hyperæsthesia, paræsthesia affecting any sensitive nerve, often none at all, or impaired muscular sense.

The average daily temperature is higher in general paralytics than in health. It is sometimes lower, and the range is greater than the normal. In the only extremely rapid case which I have seen (two months in all) it was 97° F., and thereabouts for a number of days, and then rapidly rose to 103° and 104°, where it remained until near death. After the congestive, epileptiform, and apoplectiform attacks it rises from two to seven degrees, and remains high for a considerable time, while in pure epilepsy it quickly falls. This difference, however, is not sufficient, as between epilepsy proper and epilepsy as an early symptom of general paralysis, to establish the differential diagnosis with certainty in all cases.

The vaso-motor disturbances in the brain are indicated by transient congestions or local anæmia, dizziness, faintness, temporary outbursts of anger, excitement, or confusion, and rapid changes in the mental and emotional state. Convulsive attacks are not common in the early stage of the disease, except in those cases due to syphilis, but may occur, and may so resemble hysteria, petit mal, epilepsy, and apoplexy as to be confidently diagnosticated for those diseases. The emotional state is of indifference, despondency, gloom, melancholia, elation, a feeling of self-satisfaction, or mania.

The symptoms thus far are not clear except on minute examination. The family and most intimate friends of the patient observe that he is changed, but cannot tell how, and are apt to say that he is not the same man that he was, that his troubles have been too much for him, that he does foolish things as never before, etc. Sometimes he estimates his symptoms correctly, sees the downward change himself, and is oppressed by it; oftener he is indifferent to it, or still oftener quite well satisfied with his condition and prospects, or even mildly elated. He may squander his fortune, ruin his reputation, become addicted to drink. His sexual appetite, not held back by his normal power of self-control or exaggerated with a general physical and intellectual erethism, may lead him into all sorts of improprieties and immoralities or to exhausting excesses, which are perhaps more common among the married than among the unmarried; and yet his disease is not recognized, because the later symptoms of general paralysis—namely, grand delusions, staggering gait, tremor, and marked dementia—have not yet appeared.

The pianist loses his skilled touch; the actor fails to learn a new part; the ready salesman no longer has his great facility of selling; the singer does not see that his notes have become false and harsh; the engraver's fine lines are no longer possible to him; the preacher reads the same hymn three times in his Sunday service; the man of promptness fails to keep his appointments; the speech seemingly clear to others becomes indistinct to a deaf wife; the eye trained to close, exact work loses its capacity of fine distinctions of form or color; the expert accountant can no longer add up his three columns of figures at a time; the doctor writes prescriptions showing unwonted carelessness or impaired judgment to the extent of injuring his practice; a banker loses his property by foolish ventures; the saving business-man buys quantities of useless articles; the moral man becomes licentious or the temperate a drunkard; the respected father of a family goes to the State prison for running off with a pretty servant-girl; the lawyer ruins his client's cause; the considerate husband shows unwonted harshness and violence to his wife; the industrious worker becomes a tramp or a vagabond; the amiable friend becomes irritable, disagreeable, perverse, hard to please, easily excited, cranky. These are some of the facts I have known to occur in the early stage of general paralysis without giving rise to the suspicion of cerebral disease, the conduct of the individual generally not suggesting insanity. In one case the cerebral vaso-motor disturbance caused marked intoxication from a small amount of wine, previously taken habitually without showing it, for several weeks before the most careful examination revealed other indications suggesting general paralysis. In the upper walks of life, wherever a nice intellectual adjustment or fine muscular co-ordination is required in the daily duties, symptoms to put the physician at least on his guard against general paralysis will rarely be overlooked in this early stage of the disease if they are sought for with sufficient care and appreciation of their import. In proportion as the employment is coarser, and not requiring much mental or muscular exactness, the symptoms are more difficult of correct apprehension, until we get to the day-laborers, in whose dull nervous organizations quick reactions do not occur, and in whose simple labor, requiring little thought and only muscular co-ordination of a low grade, a partially demented brain and muscles considerably impaired in strength serve their purpose so well that an early diagnosis is next to impossible. Routine work, to which he is long accustomed, is often done well by a general paralytic, provided it does not require exact mental or muscular co-ordination, when the disease has so far advanced that any new work except of the simplest kind could not be performed.

It is seldom that general paralysis, in its early stage, receives careful enough attention to be recognized or to create a suspicion of its existence until exhaustion, a long period of sleeplessness, perhaps a violent shock, a strong emotion, a fall or a blow, a congestive attack, an epileptiform seizure, an apoplectiform convulsion, or some unknown cause—probably a vaso-motor disturbance in the brain—hastens the progress of the disease, and the previously slight or obscure symptoms (at least some of them) are suddenly so aggravated as to make them of unmistakable signification. It is usual in such cases to date the appearance of general paralysis from this point, and to overlook its previous existence for the weeks, months, or it may be years, of its prodromal period. It is espe-

cially easy to overlook the period of invasion of general paralysis of the insane, as the symptoms may, and generally do, have that temporary, transient, and variable character which is common to diseases or stages of disease in which vaso-motor disturbances predominate; inasmuch, also, as the individual character has to be taken so much into account in estimating the import of particular symptoms, and as few or many of the leading indications of general paralysis may be present in a particular individual, while the physician might happen to make several examinations of his patient at times when the symptoms did not appear at all. For now and then all symptoms absolutely disappear in a time which may be short or long. In two cases of general paralysis in the period of invasion, where the moral perversion was said by the other members of the family to be a source of great trouble, I sent both patients to an insane asylum entirely upon the statements of their wives, without being able myself to see any evidence of insanity, but where the clinical history of general paralysis in its early stage was so accurately given that I was sure there could be no mistake; and a few days' continuous observation in the hospital showed the diagnosis to be correct.

The dementia, ataxia, and muscular impairment of the prodromal period of general paralysis of the insane may be masked by the prominence of almost any of the symptoms of nearly all the mental diseases; and many of the indications of the prodromal period are symptoms of disease only as they are departures from ordinary customs and habits, although in other persons they might be quite the reverse and natural to their daily life. Much that might be done by a general paralytic with great care in the early stages may quite resemble the careless work of the same person in health.

The following case is quite typical of the development of general paralysis of the insane:

Mr. ———, age 52, married, a clergyman: his mother died of apoplexy; two of his four brothers are insane. He had the usual illnesses of childhood in mild form, diphtheria of the worst type in 1869, and in recent years, according to his belief, malaria, as he had lived in a malarial region eleven years. As a young man he was of robust frame and vigorous health, brought up on a farm. He overworked, denied himself, and overtaxed, in getting his education, a brain not trained from early years to exacting labor. Eight years ago, for the first time, and at intervals since then, he has had attacks of mental confusion, dimness in sight, and indistinct articulation lasting from a few moments to several minutes. Three years ago, after great emotional strain, people began to notice that his preaching had lost in animation and force, and they complained that he had suddenly become more radical in his views. Great mental worries occurred soon after. There had been no alcoholic or other excess, except of mental overwork, and there could be no reasonable possibility of syphilis, unless we adopt Hebra's dogma, "Jeder Mensch kann syphilitisch sein"—that the means of innocently acquiring that disease are so widespread that no one can be said to be free from the danger of it. Nearly two years ago, in the dark, while feeling tired mentally and physically, but not ill or dizzy, in alighting from a coach he missed the step and came to the ground on his feet with great force. He walked to the house of a friend, and was found by one of the family on their entry floor

groaning, but not unconscious. He could not stand or talk, vomited incessantly, and complained of a horrible pain in the back and top of his head. Two days later, and each succeeding Sunday, he preached, obstinately and unlike him refusing to listen to advice to keep quiet; but he remained in bed between Sundays for three weeks, when the striking symptoms disappeared; but he had never felt entirely well since then—never had the same animation. He was supplying various pulpits, and found, wherever he had preached before, that people complained that there was a general lack of vigor in his preaching. Two years ago he observed that his right leg had less life in it than was natural, and soon after that both legs seemed heavy—that it was less easy to run up and down stairs, which his wife also noticed several months later. He also has had for a year a strange feeling, a sort of numbness, in his legs. He thought that his handwriting and speech have continued as good as ever, but has observed that he has had to change to a stub pen, as he found difficulty in writing with the old sharper-pointed kind; that his voice had grown less clear; and that he has rapidly become far-sighted. He has never had any dizziness, pain, ache, or uncomfortable feeling about his head, except during the attacks already referred to. There have been no thoracic or abdominal symptoms, no neuralgia or rheumatism. Appetite and digestion have been faultless. He has lost about ten pounds in flesh. He has slept soundly, but is often restless, getting in and out of bed. He says that he was depressed for lack of employment; that he is not irritable, but that his family would say that he is not as tractable as he was, not as patient, less easily satisfied; that his son and wife would say that he is not what he once was—that his memory is not as clear and vivid as it was. He is conscious that within the last two years he has had violent, uncontrollable passionate outbreaks from trivial causes. He preaches his old sermons, because he thinks they are too good to be lost, and because he takes pleasure in rewriting them, in doing which he remarks that the handwriting becomes progressively worse toward the end of each sermon. He says that he can write still better sermons, but does not like to make the effort. When he went into the pulpit a week ago he was told not to announce a second service, but everybody seemed to him so pleased with his preaching that a week later he gave word that there would be an evening service, to which, he laughingly said, only one person came. In standing with his eyes closed and feet together there was a little unsteadiness. On attempting to turn around or to stand on one foot with eyes closed there was some, not very great, ataxia. In these trials the unsteadiness and ataxia soon became very striking on prolonging the muscular effort a few moments. His hands had a powerful grasp, each marking 74 with the dynamometer, and on being stretched to their full extent, with fingers spread, immediately thereafter the fibrillary tremor could be seen only on close examination. There was no marked tremor of the muscles of the lips or face, except in movements which placed them at extreme tension. The tongue was quite tremulous on being protruded to its full length and held there. In walking in a rather dark entry the steps seemed to me shortened and the feet wider apart than in his natural gait, and he did not raise his feet as much, which he noticed also. In going up stairs he placed the whole foot, heel and all, on each step to keep his balance. He turned very deliberately,

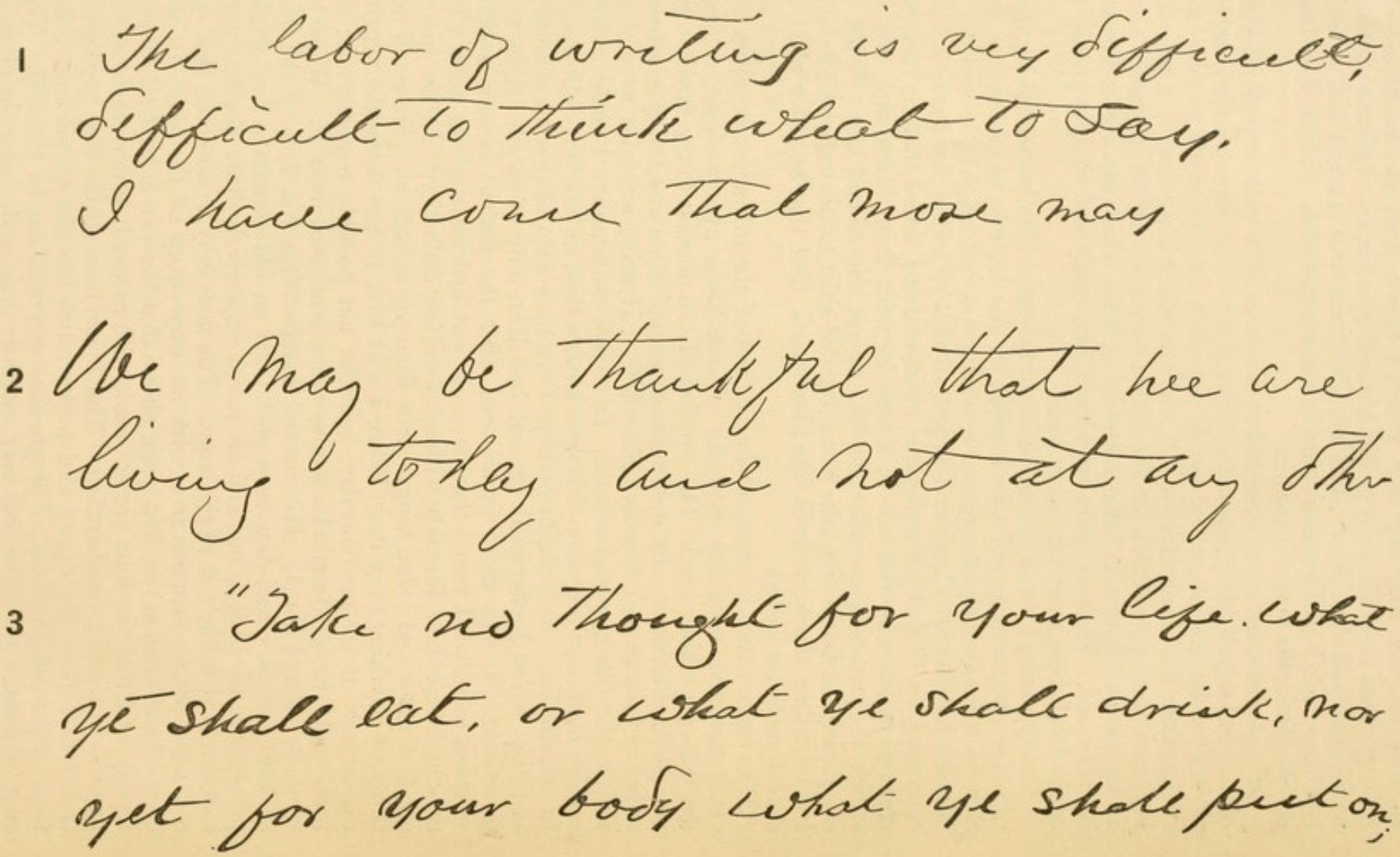
keeping the feet near together and not raised from the landing. On coming down he evidently steadied himself by a muscular effort extending to his head and shoulders. The knee-jerk was well marked and alike in both legs, but I could not say that it was exaggerated. There had been no change in the sexual function.

His general mental state seemed to me to be of a quite superficial kind of despondency at his prospects, and yet absence of a corresponding degree of anxiety for the future; of satisfaction with his ability and worth; of a feeling that his family are unduly anxious about him; and of a prevailing state of inappreciation of the whole situation, and of a general state of happiness which was abnormal—an opinion which his wife afterward corroborated. He was quite emotional, and easily and rapidly moved to smiles, and from them almost to tears.

In explaining his restlessness at night he stated that he was taking quinine for his malaria, and that it acted on the liver so as to increase the flow of urine, which he repeated several times, but laughingly said, "Of course; how foolish!" when I suggested that he meant the kidneys. In removing his clothes for a physical examination I found that he had two starched shirts on—the one in which he went from home, and that in which he preached, in order not to rumple the second one. When I asked why he could not take home a soiled shirt in his valise after having brought a clean one in it, the idea struck him that he, after all, had done something foolish.

The examination of chest, abdomen, and of the urine was negative. I could not find anywhere evidence of anæsthesia, hyperæsthesia, or paræsthesia, general or local. The reaction of the muscles to the faradic current seemed normal. By ophthalmoscope and otherwise the eyes showed only the emmetropia already referred to. Hearing was also normal, as well as the other special senses. In a close examination I could at first not discover anything about his speech more than an extreme deliberation in articulation, which might perhaps have been natural to some scholarly men, but which I afterward learned had been only of recent origin, and increasing. It was more pronounced after the patient became a little wearied, and then I found that he could not articulate a long word with several labials and linguals without manifest difficulty. I gave him a sheet of paper and asked him to write from top to bottom. He could not think of anything to write. When I told him to put down the text of his sermon of the previous day, he could not possibly remember it; no more could he call to mind a sentence or a sentiment from it. What he wrote is marked No. 1. His normal handwriting, No. 2, is of the date of 1881. Nos. 3 and 4 were copied from an old sermon a few weeks previous to his visit to me, and are taken respectively from the first page and the next to the last of the copy. The facts may be observed that the old handwriting is quite free, with an easy sweep of the pen. In the copy of the sermon the first page shows that the pen is held stiffly and tightly, and that the lines are not made with as steady a movement of the hand as in the old handwriting. The lower lines on the first page are a trifle worse than the upper, and pretty much like the second and third pages, from which there is progressive deterioration to the end. The page written in my office was very carefully done, and, under the circumstances, is marked by such muscular unsteadiness and evidence of mental

FIG. 15.


1 The labor of writing is very difficult,
difficult to think what to say.
I have come that more may
2 We may be thankful that we are
living today and not at any other
3 "Take no thought for your life. What
ye shall eat, or what ye shall drink, nor
yet for your body what ye shall put on;

4 How seldom the politician
is really Great in this State statesmanship.
"The slave of Justice", said

5 It is written more care-
lessly than my correspon-
dence would be – sketch

Lawrence Oct 7 1882.

6 I appear before
you with the hope to
better in health as I was
in the woods of Michigan

impairment and enfeebled memory as to be almost, if not quite, of itself pathognomonic of general paralysis.

I purposely made no remark to the patient, and he made no inquiry, about diagnosis or treatment. He would have missed his train, although there was a clock in my office, had I not reminded him of the late hour, whereupon he made all his arrangements with care, good judgment, and accuracy, and reached his home safely. As he walked briskly down the even sidewalk I doubt whether any one, even a physician, would have remarked any unsteadiness or anything abnormal about his gait. If he had been followed a few blocks, until the idea of catching his train had ceased to stimulate him, and after he had reached the crowded thoroughfares of the city, especially as he stepped up and down curbstones or walked slowly to avoid teams at crossings, a close examination would undoubtedly have shown the defects in gait already pointed out.

Mr. ———'s wife had noticed that her husband did not raise his feet as of old in walking—that he walked as if they were heavy, but under the influence of coca wine or a decided mental stimulus he walked apparently as well as ever for a short distance. She had noticed a slight impairment in memory, an increased fractiousness, a diminished ability to appreciate things in their proper light, a changeability in his moods and mental state, a scarcely-observed but noticeable neglect or oversight of little customary duties, occasional passionate outbreaks from trifling causes, a disposition to laugh and cry easily; and that often he did and said unwonted foolish little things, like attributing increased flow of urine to his liver, wearing two starched shirts, announcing the Sunday evening service; but she had not considered any of the symptoms as evidence of disease, especially as he kept accounts, attended to his preaching, etc., and showed no manifest indications of a disturbed or impaired mind. She had remarked a decided change in the character of his handwriting, also an unusual deliberateness in speech, but no indistinctness or hesitation, although his voice had become less clear. He had had no delusions, illusions, hallucinations, or unreasonable ideas. It was for the weakness in his legs that she asked my advice.

I found that the mental and cerebral symptoms in this case had been overlooked, and that the weakness in the legs had been attributed to spinal concussion, for which a favorable prognosis had been given.

I examined the patient after he had been away from home nine days, preaching two Sundays, and making many new acquaintances in the mean while, besides having travelled nearly two hundred miles by rail, so that he was fatigued. After three weeks' complete rest I saw him at his house. The knee-jerk was increased as compared with the previous examination. Otherwise the symptoms had so ameliorated that some of them could be brought out only after a long and patient examination, and the rest had to be accepted as a matter of history of the case. I had his photograph taken, and by comparing it with another taken three years previously his family noticed what was quite obvious in that light, but what had thus far been overlooked—namely, that the facial muscles had lost very much in expression.

The specimen of handwriting marked 5 is of a gentleman in whom the paralytic speech is quite evident after a half hour's talk, but quite masked in the beginning of a conversation, when rested. It is written

with care, after a long rest, and, as compared with his former writing when done with equal care, there is seen only a wider separation of the letters. Its general appearance, on casual inspection, is better than that of his ordinary writing before his illness, as that was hurried and careless. But the second or third page brings out the ataxia distinctly. It shows how well a general paralytic, under the influence of rest and quiet, may control certain groups of muscles—how completely the ataxia may be concealed under an ordinary examination; and yet the symptoms in his case may be clearly brought out by the method just described. The tongue was quite tremulous.

The writer of No. 6 was more advanced in general paralysis, but had been thought not to be ataxic, from the fact that he had been able to write a single word pretty well. His few lines are quite characteristic of a general paralytic. Although he was in my office in Boston, he dated his statement from his home, and wrote the word Lawrence not badly for a man not in the habit of writing much. Seeing me for the first time, he addressed me as Friend Folsom, and he signed his name by his old army title of nearly twenty years before—corporal.

The characteristic writing in advanced general paralysis, irregular, distorted, full of omissions of letters and words, and finally illegible, may be seen in the textbooks on insanity.

It very rarely happens that the onset and early progress of general paralysis are so sudden and rapid that there is no prodromal period or that it is very short.

The symptoms of well-marked general paralysis include four tolerably distinct types, as follows: (1) The demented and paralytic; (2) the hypochondriacal; (3) with melancholia; (4) with exaltation and mania. There are mixed cases in which some or all of these forms occur. The period of invasion or prodromal period, be it short or long, has, as a rule (not always), gone by when the disease has arrived at a point in its progress to be definitely placed in any or several of these four types.

The demented form of general paralysis is the most common, and is also that in which the greatest increase has been noticed during the last decade, whether from more accurate diagnosis or by reason of an actually greater proportion, probably to a certain extent due to both causes. It consists in a very slowly-advancing mental impairment, making progress side by side with muscular loss of control and power, which may continue several months or years before their importance is appreciated, the vasomotor disturbances not being so marked as in more acute forms of the disease, and the changes in the mental state and bodily strength from week to week being so slight as to escape observation. Attacks of dizziness, petit mal, and epileptiform seizures are quite common in this type of general paralysis. In one of my cases a lawyer in the third year of the disease was retained as counsel in a will case involving over a million dollars, when he fell repeatedly in the streets, and when his occasional, indeed frequent, mental lapses were so apparent to his partners that they did not allow any of his business letters to leave the office without being first inspected by them. Mental excitement, maniacal symptoms, and delusions of grandeur rarely occur, except as transient attacks, until the final stages. The patient commonly realizes that something is the matter with him until he becomes quite demented, and can often describe his

mental state and general symptoms quite intelligently, although rarely with a full appreciation of their extent and import. He easily persuades himself that it is not worth while to take steps for medical treatment, and keeps on with his work until some distinct failure in his mental or physical powers, usually a sense of malaise, muscular pains, a feeling of exhaustion, convinces him and his friends that a physician should be consulted. Perhaps he goes to some health-resort or water-cure, or tries rest and recreation in travel, still thinking his case not an important one, until he seeks medical advice to please his family or friends. He may say that he is only tired mentally and physically.

In the hypochondriacal form of general paralysis, vaso-motor disturbances, flushed or pale face, headache, defective circulation, and various abnormal sensations referred to the peripheral nerves and internal organs are associated with a hypochondriacal mental state, which is also marked by an evident mental impairment, manifested in an almost childish changeability of complaints. Grand delusions and great mental and motor excitement do not, as a rule, appear until the later stages, but the hypochondriacal form is less subacute than the demented.

In general paralysis with melancholia the sad delusions are apt to be associated with some form of expansive ideas or to be transformed into them at some stages of the disease, although the classical delusions of grandeur are a late symptom.

The maniacal form of general paralysis with the délire de grandeur is the disease as described by Calmeil. Mental exhilaration and delusions of personal importance are its conspicuous features. It may develop at any time in the course of the other three forms just mentioned; its prodromal period may be such as has been described, usually shorter, or the symptoms may be of excitement and maniacal from the beginning. It is the general paralysis of the books until within recent years.

It is doubtful whether these four forms of general paralysis depend upon any pathological basis which can now be determined, but their recognition is practically important for an early diagnosis, and they differ from each other very little in their later and final stages. They constitute what is known as the descending form of general paralysis, in the majority of cases of which descending degeneration of the lateral columns of the spinal cord or posterior spinal sclerosis, or both, appear, secondary to the brain disease.

In the ascending form of general paralysis there are posterior spinal sclerosis and the usual symptoms of that condition—which are described in another article of this work—from one year to a dozen or more years before there are indications of dementia.

In the first stage of general paralysis, although a distinct loss of power is an early symptom, it is not so striking in its manifestations as loss of control. The moral obliquity and the mental lapses seem entirely out of proportion to the general mental impairment. What seems moral perversion is often strictly so, but oftener it depends upon a want of attention or appreciation of the facts in the case, which can be aroused if there is opportunity for it. There is a clear inability to use the force that the mind has. The foolish credulity and readiness to be duped are often only a temporary condition. There is, at the same time, an inability to co-ordinate the muscles to a striking degree at a time when there is still

only slight impairment of the muscular strength, or inversely, and the co-ordinating power may improve up to a certain point, while the muscular impairment goes on. This ataxia is first noticed in those muscles requiring the nicest adjustment for their usual work, the penman's and the pianist's fingers, the proofreader's eyes, the singer's throat. But it may be for a long time very slight or not easily detected.

Although this muscular ataxia may be observed, even if not constantly, in the prodromal period of general paralysis, it is usually well marked only when the symptoms have become well developed. There is also a fibrillary tremor of one group of muscles or of one set of fibres after another when these muscles are exerted, and increasing as they become wearied, as they soon do, from the exercise. The handwriting may show no conspicuous fault at the top of the page, and at the bottom be full of evidences of muscular tremor and unsteadiness, or a single word may be written without conspicuous fault, and a few lines serve to show ataxia of the muscles used in writing. In beginning to read there may be only the most trifling want of clearness of tone and steadiness of articulation, noticeable only to the most practised ear, which after a number of minutes becomes a distinct harshness of voice or evident stumbling over linguals and labials, or hesitation in speech, which may seem like the utterance of a person slightly under the influence of wine or with lips cold from frosty air. The hesitancy of speech is due partly to a slower flow of ideas than in health, an impaired power of attention to the subject in hand, a diminished creative power or expression of thoughts, but also to a distinct ataxia, an inability to promptly co-ordinate the muscles required to perform the act. The difficulty in reading is partly mental and in part due to inco-ordination of the muscles governing the eyes as well as those of articulation.

These muscular defects and mental inefficiencies, when slight, may be hardly detected after the patient has had a prolonged rest and is quiet and calm. After some emotional irritation, weariness, sleeplessness, vaso-motor disturbances, or congestive attacks they become very pronounced. After several weeks of absolute rest, with the patient still at rest, it may be impossible for a time to find any trace of mental defect or muscular deficiency until the patient has again been put to the strain following some effort. They are very much increased after epileptiform or apoplectiform attacks, which, however, are uncommon so early in the case.

In the progress of the disease, as the mental impairment increases, the reaction of the nervous system to external conditions becomes less active, the mind weakens, the loss of flesh may be, at least in part, regained, a great portion of the irritability and active symptoms disappears, and as the patient grows worse he may seem for a while to his friends to improve.

The leading symptoms of general paralysis of the insane are—(1) vaso-motor, (2) mental, (3) physical.

The vaso-motor symptoms consist in a progressive paresis or lessened power, which in the progress of the disease advances to complete arterial paralysis—at first a functional disorder of impaired innervation, and finally organic. They are marked early by rapid changes in the cerebral circulation, a diminished arterial tension, with occasional or frequent attacks of vertigo, dizziness, or faintness, confusion and incoherence that may amount to a transient dementia, localized and general elevation or

depression of the bodily temperature; frequent attacks of congestion or at long intervals, with a flushed face or transient cerebral anæmia, may be marked by sharp emotional disturbances, fits of temper, irritability, maniacal excitement, loss of self-control, etc., or by epileptiform and apoplectiform seizures of various degrees of severity, with or without temporary or transient loss of muscular power, local or of the monoplegic, hemiplegic, or paraplegic nature, of a much less severe character than similar attacks later in the disease, due in part also to organic changes. The circumscribed loss of power of the vessels of the skin leads to various functional disturbances, and finally to paralysis, involving bedsores, etc. Cyanosis, neuroparalytic hyperæmia of the lungs, bladder, and intestines, cold feet, œdema of the skin, local sweatings, etc. are final evidences of vaso-motor paralysis. Throughout the disease, at least nearly to the end, this vaso-motor paresis and paralysis causes marked variations in the mental state which are too rapid to be accounted for by organic changes.

After there is evidence of definite atrophic and degenerative disease in the brain, as indicated by great mental impairment and muscular paralysis, the mental and physical symptoms may be subject to great changes, without any apparent cause but vaso-motor disturbances, and alternating rapidly from extreme intellectual confusion and absence of mind to a clear, even if temporary, mental state. Less extreme changes in the condition of the mind are common.

The mental symptoms, after the disease is pronounced, consist in an intensification of those already mentioned as characterizing the prodromal period—in an increase in the loss of power of control over all mental operations and in the loss of mental power, the two symptoms making progress side by side. In the form of the disease attended with maniacal excitement the prodromal period is usually shorter than in the others, but may last several years. After the prodromal period has passed the mental impairment increases, so that the judgment, memory, power of attention and expression grow progressively worse; and this impairment constitutes the only characteristic mental state universally present in all stages of general paralysis of the insane—namely, progressive dementia. The accidental symptoms may be those belonging to any type of insanity except logical systematized delusions. They very rarely simulate the states of mental defect and degeneration.

If there are delusions of persecution, they are marked by a degree of confusion or incoherence not compatible with logical inference. The state of melancholia may change rapidly to mania, and the demented form may at an hour's notice become the excited. Where the symptoms of mental exaltation and depression alternate, resembling folie circulaire, the alternation is less regular than in alternating insanity properly speaking; hallucinations of sight and hearing and of all the special senses are quite common, although, as a rule, rather late symptoms, and then confused and often only partially intelligible. There are also all sorts of illusions and delusions.

The impairment of the sense of right and wrong becomes quite marked; the patient loses the sense of property and ownership. In no other disease could the reported case occur of a man, to outward appearance well, going up to a policeman and asking his assistance in rolling off a barrel

of liquor which belonged to some one else, and which he meant to appropriate. For this reason what seem to be thefts are very common, and although by that time there is striking mental impairment, it may not be obvious to every-day people. Almost every other moral obliquity occurs, particularly a tendency to drunkenness and every possible violation of the proprieties and laws regarding property and the sexual function. It is all done, too, in such a foolish way that the insanity would be apparent to almost any intelligent person before whom the facts might be fully and clearly placed. There may be a curious consciousness in the patient of the fact that something is the matter with him, and a most extraordinary unconsciousness of what an inordinate fool he is acting. If he can be made to see what folly he is committing, perhaps a few moments later he is saying that he was n-ever b-better in his life. The emotions change most rapidly, and an adroit examiner will have his patient crying over some trifle one moment, and another moment laughing over something equally inconsequent. The prevailing mental state changes as rapidly as the emotions. Violent anger, outbursts of passion, penitence, amusement do not succeed each other more rapidly than indifference, melancholy, and exaltation.

The suicidal idea is common in general paralytics before they become very demented; the suicidal impulse is rarely strong enough to result in anything more than futile attempts at self-destruction. Suicide by deliberation is also rare, for even when it is meditated the weakened, indecisive mind usually fails to prepare adequate plans for its successful issue. Homicidal attempts are not to be expected as a rule, except in the delirium of the states of maniacal excitement or in an outburst of anger for a fancied wrong or deliberately for some trifling reason. Even from suicide and homicide a practised physician or attendant will easily turn the general paralytic who is not maniacal to some amusing or silly thought. He has become credulous, simple-minded, and easily moulded to an expert's wishes, so far as his general conduct is concerned, and yet at any moment he is capable of a furious mania or a violent storm of passion, which after cerebral congestive attacks may be long and severe. Sometimes these symptoms just described may be very pronounced at night and not especially troublesome during the daytime. I have had patients who were dangerous, violent, noisy, deluded at night, and entirely quiet by day, for several months.

The mental state is of progressive impairment. The ideas flow slowly, and there is slowness or hesitation in speech in giving utterance to them, even to the degree of amnesic aphasia. Word-blindness occurs, and word-deafness and the various disturbances of speech associated with the several forms of aphasia. After the dementia is very marked there is often a most extraordinary variation in it. The patient may be confused, incoherent, and to appearance hardly capable of sustained thought, but soon quite able to perform a business transaction. The friends say of such patients, "He is crazy to-day," or "To-day he is sane;" and this quite independent of the marked increase in the dementia which occurs from organic changes, epileptiform and apoplectiform attacks, after which the advance in the mental impairment is rapid and great. Accompanying dizzy and congestive attacks there is a temporary dementia which may be over in an hour or two.

The patient may recall many long-past events fairly well when he cannot find his way to the dinner-table without blundering, when he does not know morning from afternoon, and after he is unable to dress and undress himself without constant remindings or even actual help. Such paralytics wander off and die of exposure, are picked up by the police as having lost their way or as not knowing where their home is, or fall into some fatal danger from which they have not mind enough to extricate themselves. When the mental impairment has reached this point the lack of mind shows itself in a lack of facial expression, which is so characteristic of the disease that with a practised eye it is recognized as far as the countenance can be distinctly seen; and from this point the progress is commonly quite rapid to absolute dementia, entire inability to form or express thoughts, too little intellect to even attend to the daily natural wants, and a descent to the lowest possible plane of vegetative life, and then death.

At some time or other in the history of general paralysis delusions of grandeur, a general feeling of personal expansiveness or extreme self-satisfaction, may be confidently looked for. In the melancholic and hypochondriacal forms of the disease, as has already been mentioned, they are late symptoms; in the demented type they occur only, for the most part, near the final stage of absolute dementia; and in the excited form they are usually found from the beginning or at least developing from a general feeling of bien-être. They may vary from what would pass as inordinate, silly conceit to a wildness of delirium which stops hardly short of infinity. The patient is the greatest financier, the handsomest man, the best runner, can out-box the champion pugilist, can write the finest sermons. Delusions of this degree, especially in women, are apt to refer to the reproductive faculty or to the qualities which please the opposite sex. One man can make a million dollars a day writing poetry; another is building cities of solid gold; another owns all the railroads in the country, is king over all the earth, god over God; another is running express-trains over his bridge across the Atlantic or has a doctor who comes to see him in a balloon. There is often a depth of vulgarity and obscenity about the delusions which is rarely seen in other diseases. When the grand delusions appear in the melancholic form, they are apt to be tinged with gloom, as of a queen whose diamonds are withheld from her, a lover who is kept from his princess bride, etc. In the hypochondriacal form it may be a crystal liver, a silver stomach, a brain of solid gold, etc.

Delusions of personal belittlement, called micromania, sometimes follow or alternate with the megalomania.

Maniacal excitement is a late symptom in the demented, hypochondriacal, and melancholic forms of general paralysis; and it rarely occurs in them except in the final months of the disease, unless as a direct sequence of congestive, epileptiform, or apoplectiform attacks, and then it lasts usually from a few hours to several days. These attacks may occur at any time without any warning whatever, and may be attended with fury or stupor also. As a matter of fact, they are very rare at an early stage except in the excited form of general paralysis, of which they are a pretty constant symptom until marked dementia has appeared, and they may continue to the end. The fury of these maniacal attacks is of the most furious and maddest kind, blind, the most utterly regardless of consequences

of any kind of insane excitement, and without the intelligence even of the acute maniac.

The ability to recognize his own mental state is sometimes retained by the patient, at certain times at least, to a quite late stage in the disease, so that he learns to call his visions hallucinations and his strange fancies delusions. He may even agree that his illusions are all nonsense, that the disease is in his brain. The so-called lucid intervals are not uncommon until the final stage of absolute dementia, when attention, memory, judgment, conception, connection of ideas, imagination, desires, the exercise of the senses, general sensibility, after becoming more and more imperfect are at last completely suspended. The moral sense and finer feelings had gone long before.

Although the story of the mind's decay in general paralysis is a comparatively short one, from a few weeks to four or five years for the prodromal period, and then an average of two or three years for the rest, but varying from a few weeks to a rare extreme of twenty years, there may be at any stage of the disease, except at the very end, a more or less complete remission lasting from a few months to ten years. It is dangerous to say, therefore, that there is any degree of dementia which may not be temporarily at least, or in some part, recovered from. Most of the reported cures of general paralysis have been at last proved to be simply remissions, which may be partial or so complete as to leave no trace to the most practised observer. It is not uncommon to see a remission of six months or a year or two, in which the patient can lead a quiet life; it is seldom that he undertakes responsibilities without bringing the remission rapidly to an end. There are a few cases where active business has been resumed and followed successfully for several years. But there is apt even then to be some deterioration in character, which may amount to an actual moral insanity. An arrest in the downward progress, so that the symptoms remain for a considerable time without essential change, is not very uncommon, and may occur at any stage of the disease.

The physical symptoms of general paralysis consist in impaired control over the muscles, diminished power of co-ordinating them, followed at once by progressive muscular enfeeblement ending in complete paralysis.

The ataxia first shows itself in the finer muscles—of the eye, of the fingers, of articulation. There is a little hesitancy or rather deliberateness of speech, the voice loses its fine quality, the intonation may be slightly nasal. Instead of contracting smoothly and evenly as in health, the muscles show a hardly noticeable jerkiness; an irregular fibrillary tremor is seen when they are exerted to their utmost and held in a state of extreme tension for several moments. In attempts to steady the handwriting the patient forms his letters slowly, makes them larger than usual, or tries to hurry over the letters, making them smaller. The coarser muscles show ataxic symptoms much later. It is observed by the patient or his friends that he does not walk off with his usual rapid gait, and the effort to co-ordinate his muscles produces an early or unusual fatigue, which may be associated with general muscular pain. Extreme soreness and pain, following the course of some one or more of the main nerve-trunks, may be most persistent and obstinate to treatment, lasting for several years, limiting the motion of the limb, some-

times beginning a year or two before other symptoms are observed. Sooner or later, especially after a little weariness or excitement, there are observed at times, not constantly, indistinctness or an occasional trip in enunciating linguals and labials, a tremor in the handwriting, a slight unsteadiness in the gait. When the tongue is protruded as far as possible, when the hands and arms are stretched out, when the muscles of facial expression are exerted, in standing with feet together with closed eyes, a decided muscular tremor and unsteadiness are remarked. These muscular symptoms soon become constant, although they may be so slight as to be well marked only by some unusual test, such as prolonged use after excitement or fatigue, and the ataxia may diminish, the gait, speech, or handwriting may improve, while muscular power is growing progressively less.

In walking the feet are not raised as usual, the steps are shorter, the legs are kept wider apart; turning about is accomplished in a very deliberate way, such as to suggest an insecure feeling; movements like dancing are impossible. Going up and down stairs is difficult; the whole foot is rested carefully on each step, and the head and shoulders are held stiffly, so as to maintain the balance. The muscular movements are generally uneven and tremulous, and yet the strength may not be so very much impaired, although perhaps available only for short periods at a time. Even these symptoms may so improve by a few days' quiet, or even by a night's rest, as to quite throw the physician off his guard unless a thorough examination is made. The patient, too, on an even floor or sidewalk may walk so as not to attract attention, and yet in a new place, over a rough surface, or in the attempt to perform difficult or rapid movements, exhibit striking ataxia and feebleness of gait. In starting off with a definite purpose he may for a short distance walk quite well, as he may do under the influence of a glass of wine.

From this point the progress is usually rapid. The handwriting becomes more and more tremulous, unsteady, full of omissions of letters and words, disjointed, disconnected, and finally illegible; the articulation more thick, stammering, hesitating, indistinct, unintelligible; the gait staggering, shuffling, straddling, uncertain, unsteady, even to causing frequent falls. There may be still a considerable degree of strength for a single short effort, but the co-ordination is so imperfect as to make it avail little. The voice, for instance, may be loud and forcible, but the co-ordination sufficient for only a short explosive utterance of one syllable, and then quite an interval before the force can be concentrated for the next. Progressive muscular paresis becomes finally absolute paralysis.

Remissions in the physical symptoms follow the same general laws as in the mental symptoms, but are not so complete, and there may be an arrest in their progress also.

In all stages of the disease, especially the later, there may be almost any of the symptoms observed which occur in the various functional and organic diseases of the nervous system. The hyperæsthesia, local or general, may be most absolute, or the anæsthesia so complete that acts of self-mutilation ordinarily causing exquisite pain are performed without apparent suffering. Any motor ganglia, any nerve, any tissue, may degenerate, giving rise to various degrees of impairment up to total

destruction of function—of the optic nerve, causing blindness; of the auditory, deafness; of the olfactory, glosso-pharyngeal, or any of the cranial or spinal nerves.

The pupils may be of normal size. They may be of normal or sluggish accommodation to light and distance, or there may be dilatation or contraction of either or both pupils and no response to light or accommodation. The pinhole pupil is not uncommon. There may be neuro-retinitis, atrophy of the disc, neuritis, nystagmus, diplopia, amblyopia, hemianopsia, color-blindness, ptosis, conjugate deviation of both eyes, or paralysis of any of the ocular muscles. The paralysis of one of the muscles of the eyeball may be one of the earliest and most persistent symptoms. The optic neuritis or atrophy may also occur early, but seldom appears in time to aid in a doubtful diagnosis.

Sugar has in a few cases been found in the urine; albumen is not uncommon.

The sexual function is commonly exaggerated in the early stages, then diminished, lost, and finally returns in the stage of absolute loss of self-respect and self-control, although it may be impaired from the beginning or not materially changed at first. There may be temporary or persistent incontinence or retention of urine.

At first there is a marked loss of flesh, then a gain. As the muscles lose in power they increase in size, with an interstitial degeneration. The deposit of fat is sometimes enormous. In the final stage there is emaciation.

The convulsive attacks usually are of the nature of cortical epilepsy, or at least commonly begin as such. They are associated with and followed by a considerable rise in temperature—from two to seven degrees F.—and are immediately succeeded by marked increase in the severity of the symptoms, both mental and physical, especially if the attacks follow each other in rapid succession or last for a number of days. They may be due to hemorrhage, embolism, or effusion, and be marked by any or all of the usual symptoms and sequences of those conditions, permanent or transient. General and aural vertigo are not uncommon.

The muscular tremor before the last stages varies in different muscles—excessive perhaps in the tongue, moderate in the fingers, and so on. It may also seem slight as compared with the other symptoms, or, on the other hand, be enormously exaggerated in certain groups of muscles out of all proportion to all other indications. At the end extreme and constant tremulousness accompanies every voluntary movement.

Spastic paralysis, muscular tension, contractures, rigidity of the most persistent character seem at times to be under the influence of the will, although of cortical origin and in a certain sense automatic, like convulsions.

The knee-jerk is changed in somewhat more than half the cases, a little oftener exaggerated than abolished; but sometimes the reflexes are enormously increased all over the body, so that a strong puff of air in the face even will set the arms and legs going like a jumping-jack. I have twice seen the patellar reflex abolished in one leg, and so marked in the other as to seem to me exaggerated.[1] I have also known it to disappear

[1] There was no evidence, and there had been no history, of a hemiplegic attack in either case.

absolutely in both legs two weeks after it had been found to be excessively exaggerated. It also varies under conditions of rest, fatigue, excitement, etc. Intense pain in the joints occurs, and I have found it where the knee-jerk was exaggerated, in one case giving rise in a physician to the delusion that his arms and elbows had been resected. This may disappear in time. Charcot's joint disease has been observed.

In the final stages the bones are fragile and easily break; hemorrhages under the periosteum or perichondrium arise from trifling force or injury, giving rise to hæmatomata, the most common of which are on parts exposed to pressure, etc., as the ear. The patient is confined to his bed, fed like a small child, demented, hardly able to articulate the extravagant delusions which form such a grotesque contrast to his actual state, until the mind is as incapable of forming or receiving ideas as of expressing thoughts; and the body is simply a filthy, helpless mass of humanity, dying of exhaustion or decay, unless lung gangrene, bed-sores superficial and deep, necrobiosis, exhausting diarrhœa, pneumonia, pulmonary consumption, perhaps asphyxia from an epileptic fit or choking, have followed incontinence of urine and feces to the fatal end, or heart failure or apoplexy have closed the scene.

Pathology and Morbid Anatomy.[1]—General paralysis of the insane is, according to Mendel, following Rokitansky's idea, a connective-tissue disease, affecting the nerve-cells and tissues secondarily, while Tuczek and Wernicke think that the primary disease is of the nerve-elements (primäre Atrophie der Nervenelemente)—a diffuse interstitial cortical encephalitis on the one hand, or a diffuse parenchymatous cortical encephalitis on the other. There is also, in well-marked cases, atrophy of the white substance, due, according to general opinion of pathologists, to primary interstitial encephalitis ending in sclerosis.

In the majority of cases there is pachymeningitis, often extensive and excessive, with hemorrhages, but which may be no more than is quite commonly found in persons dying of phthisis or chronic nephritis. There is also, usually, leptomeningitis, with adhesions to the cortex, especially of the anterior and antero-lateral portions, so firm that the arachnoid cannot be removed without tearing off portions of the brain; but it is sometimes scarcely observed, and may be no more than is found in persons dying simply of old age. The pia may be in places thickened, opaque, and without adhesions. Ependymitis is usual.

In the terminal stage of general paralysis there is well-marked atrophy (with compensatory serous effusion), which is, as a rule, most marked in the cortex of the brain, but which is of varying degrees in its different

[1] For a detailed statement of the post-mortem appearances in general paralysis compare Spitzka's *Insanity*, pp. 218–243; *Beiträge zur pathologischen Anatomie und zur Pathologie der Dementia Paralytica*, von Dr. Franz Tuczek; *Die Progressive Paralyse der Irren*, von Dr. E. Mendel; *Lehrbuch der Gehirnkrankheiten*, von Dr. C. Wernicke, iii. pp. 536–541. Westphal's classical work is not referred to, as his latest views and others of interest are given in a report of a discussion by the German Association of Alienists in the *Allgemeine Zeitschrift für Psychiatrie*, iv. 1883, pp. 634–638 and 648–654. In the third number of the *Neurol. Centralblatt*, Mendel reports an autopsy of a patient diagnosticated to have melancholia, who died a violent death, where he thought that he found evidence of the early stage of general paralysis in moderate opacity of the pia mater, with nodules as large as a pin's head in both parietal regions, and in slight indications of diffuse interstitial inflammation of the cortex, the blood-vessels in the frontal convolutions being extensively filled with white blood-corpuscles.

portions. Rarely there is scarcely any atrophy of the cortex. The central portion of the brain may be of leathery consistence, but usually shows marked sclerosis, which also may affect its different portions and the different ganglia very differently. The changes resulting from inflammatory, degenerative, and atrophic processes are general and profound.

An opinion is beginning to obtain that general paralysis is primarily a disease of the small cerebral blood-vessels, functional or vaso-motor; and Meynert holds that the transition line between that stage, which he considers curable, and organic disease may be recognized clinically.

In general paralysis, as in other mental diseases, the nervous discharge is accompanied by a greater disturbance in the structure of the gray substance of the brain, a more extensive decompounding of it, and consequently by a more complete exhaustion of nervous force than in healthy mental processes. Longer periods of rest and improved nutrition are therefore necessary to restore healthy function. In general paralysis, as in all other mental diseases dependent upon destructive disease of the brain, there is not only decompounding, but decomposing and disintegrating, of the structure of the brain.

Posterior spinal sclerosis is frequently found. If alone or predominating over sclerosis of the lateral columns of the cord, the knee-jerk is abolished if the morbid process has gone far enough. If descending degeneration of the lateral columns is chiefly found, and is sufficiently advanced, the knee-jerk is increased. At least one of these forms of sclerosis exists in the vast majority of cases.

There is also a distinctly syphilitic disease of the smaller cerebral arteries, together with a diffuse parenchymatous and interstitial encephalitis of syphilitic origin. At present we have no means of differentiating it at the autopsy from general paralysis following a subacute or chronic course, except inferentially from the presence of other evidences of syphilis. It is not always possible, therefore, to distinguish between syphilis and a syphilitic diathesis as the chief factor in diffuse encephalitis.

Diagnosis.—Although a well-marked case of general paralysis is unmistakable, the diagnosis in the early stages or in obscure cases may be extremely difficult. The varying degrees in which the various portions of the cortex, medullary portion, and different ganglia of the brain may be involved in the morbid process naturally give rise to a great variety in the symptoms, mental and physical, sensory and motor, emotional and intellectual, and in the relative preponderance of one or another in individual cases. The usual symptoms of any form of mental disease may for a time obscure the dementia which sooner or later must appear in general paralysis, and which, as has already been said, is the only mental symptom universally present in all cases. This mental impairment must also be associated with progressive muscular loss of power, although the relation of the two symptoms to each other, the degree to which a given amount of the one leads to a fair inference of a certain amount of the other, is liable to the greatest variation, the range of which can only be learned by observation and experience. There is a certain quality to the dementia, as already described, which is often sufficient of itself to establish the diagnosis with a practised physician.

The early mental symptoms may simulate those of cerebral neurasthenia, in which the patient thinks that there is decided mental impairment, although there is no progressive dementia. The tremor in neurasthenia is greater and more universal than in the stage of general paralysis with which it might be confounded, and the subjective symptoms are much more prominent.

Muscular malaise and pains throughout the body give rise to the diagnosis of malaria or rheumatism, in which there may be loss of power, but no ataxia or dementia.

The sclerosis may be predominating or pronounced in the basal ganglia and bulbar nuclei, giving occasion for a hasty diagnosis of labio-glosso-pharyngeal paralysis, until it is found that the clinical history of that disease is not followed. In the same way, any motor or sensory ganglia or nerve-roots may be so early implicated in the degenerative process as to mislead the physician into giving attention to only the local symptoms.

Once I have known the early convulsions of general paralysis in a very self-conscious woman mistaken for hysteria, the mental impairment and physical weakness having been overlooked on account of the prominence of the convulsive attacks and the hysterical symptoms, which may be a complication of any form of insanity in young and middle-aged people, particularly women.

It is not uncommon for the attacks to so thoroughly resemble epilepsy as to be mistaken for it, the dementia not being observed or being supposed to be the ordinary mental deterioration generally following epilepsy. In such cases the progressive dementia, ataxia, and muscular weakness may advance so slowly as to entirely escape observation for a long time, and give rise to the confident diagnosis of epilepsy for five or six years. Epilepsy, however, arising in a vigorous, middle-aged person without evident cause, should always suggest the suspicion of syphilis, cerebral tumor, or general paralysis, when careful scrutiny of all the symptoms will show where it belongs.

Embolisms, hemorrhages, cerebral effusions, more or less diffuse encephalitis from an injury to the head, sometimes give rise to the suspicion of general paralysis, until it is found that its characteristic progressive symptoms do not appear, but chiefly when the history of the case has not been definitely ascertained, or when the usual symptoms of those conditions are not well marked.

Chronic endarteritis, arterio-sclerosis, atheroma of the cerebral arteries may be so diffused as to simulate general paralysis, especially in drunkards and syphilitics, but the symptoms do not advance in the manner characteristic of that disease.

Multiple cerebro-spinal sclerosis of the descending form may be confounded with general paralysis while the symptoms are obscure and consist in change of character, when, indeed, organic disease can only be suspected to be present.

Lead has been known to attack the central nervous system in such a way as to produce an intellectual apathy and muscular weakness somewhat resembling the early stage of the demented form of general paralysis, but without its ataxic symptoms and its regular progress. The presence of lead in the urine, and the marked improvement from the use of

iodide of potassium, tonics, and electricity, are sufficient to establish the diagnosis.

Chronic and persistent alcoholism is always attended with some mental impairment, which may so resemble the dementia of general paralysis, with marked moral perversion, mental exaltation, grand delusions, muscular tremor, ataxic symptoms, and impaired muscular power, as to make the diagnosis doubtful for several months, until removal of the cause (alcohol) in the course of time causes the symptoms to so abate as to make the real character of the disease evident.

I have once seen chronic interstitial nephritis without its usual prominent symptoms and with mild uræmic convulsions mistaken for general paralysis.

A tumor of the brain, if not attended with the common symptom of vomiting, may be the cause of convulsions and headache resembling those often seen in general paralysis. Optic neuritis or atrophy is usual in cerebral tumor, but rare in a stage of general paralysis so early that the diagnosis might be doubtful.

Hemorrhagic pachymeningitis also now and then simulates an obscure case of general paralysis in the early stage, but a few weeks at most settle any doubts in the matter.

Although diffuse cerebral syphilis is more apt to be associated with distinctly localized symptoms than the demented form of general paralysis, and although it is characterized by a mental apathy and physical torpor which follow a more regular course with more definite symptoms, resulting in a slow decay, yet there may be doubtful cases in which the differential diagnosis is impossible, and in which antisyphilitic treatment does not throw any light on the subject. Syphilitic new growths, endarteritis, and meningitis may so far improve from the use of mercury or the iodide of potassium as to end in an apparent cure, but in those cases the symptoms are not so marked as to make an exact diagnosis always possible. A distinct syphilitic cachexia is presumptive evidence of syphilitic encephalitis when there is doubt whether the syphilis is the cause or the diathesis.

Profound melancholia is not so often as varying gloom or moderate despondency a symptom of general paralysis. When it is such, there are developed in time the other marks of that disease, and it will only be necessary to hold the diagnosis in reserve for their appearance. The melancholia masks the dementia unless it is very carefully sought for, and the tremor may be as marked in melancholia as in the early stage of general paralysis, but more universal.

Acute mania is not uncommonly mistaken for general paralysis, when, as often happens, the delusions are as expansive and the tremor as great in the mania as in general paralysis; and it may be several months before the differential diagnosis can be made with certainty. In the presence of a high degree of maniacal excitement, with great emotional agitation and muscular tremor, it is difficult to establish the fact of the existence or not of dementia in doubtful cases until it is well developed. Acute mania has been known to constitute the prodromal period of general paralysis for a number of years.

Primary mental deterioration cannot be always differentiated from general paralysis of the demented type in its early stage. After the

age of sixty the probabilities are in favor of primary mental deterioration in doubtful cases, but general paralysis occurs—seldom, to be sure—up to the age of sixty-five.

Early senile dementia may simulate general paralysis of the subacute form, but has not its clinical history. General paralysis of the quiet, insidious type and primary mental deterioration have been called premature senility. The three diseased conditions have certain points of similarity, and the pathological processes involved in them do not differ sufficiently to authorize the assumption that they are not closely related, if not simply variations, due to age and other causes, in one morbid process.

Finally, the mental impairment caused by the prolonged use of bromide of potassium and hydrate of chloral has been mistaken for general paralysis, until a critical examination unmistakably showed the presence of the well-known symptoms of those drugs.

In examining the patient it is especially important to avoid leading questions, as in general paralysis and in those conditions which simulate its early stage the mind is in a condition to readily fall into the train of thought suggested to it. The fact should be kept in mind, too, that the symptoms in early general paralysis are so variable as to be sometimes quite evident, and at other times not to be got at with certainty at all or only after long and patient examination; that they sometimes quite disappear under the influence of complete mental and bodily rest; and that in all stages, until near the end, such complete remissions may occur as to make the diagnosis, independent of the history of the case, difficult if not impossible.

A gentleman once committed an offence characteristic of general paralysis in marrying a pretty servant-girl while temporarily away from his home. His wife, daughters, and friends saw that the act was so contrary to his natural character that he was placed in an insane asylum and kept there several weeks under observation for an opinion as to his responsibility. He appeared so well in the absolute quiet and rest that he was declared sane, tried, and sentenced to the State prison, where he showed his marked mental impairment as soon as he was set to work. He could not concentrate his mind sufficiently for the simplest labor, and a couple of years later he was sent to the insane asylum to die, a complete mental and physical wreck, in the late stage of general paralysis.

Prognosis.—The very few reported cures in so common a disease as general paralysis, and the circumstances under which they have been reported, lead to the suspicion that there was an error in diagnosis or that the mistake was made of supposing a remission to be a cure, as has often happened. The course of the disease is more rapid in men than women, and in young persons than in the older. From the galloping cases of a couple of months to those slowly advancing, with long remissions, over twenty years, the average, including the prodromal period, is probably not far from five (perhaps six) years. Collected from asylum statistics, it is given as from two to three years. When I am sure of the diagnosis, I generally say that the patient may die within twenty-four hours (of paralysis of the heart, from suffocation by an accident in an epileptic attack, from choking, from cerebral hemorrhage or effusion, or suddenly with cerebral symptoms of which the autopsy gives no satisfac-

tory explanation), within a short time of intercurrent disease, especially diarrhœa or pneumonia, or that he may live several years, as he probably will, and possibly have a remission, during which he may lead for a while somewhat the same kind of life as other people.

Persons presenting symptoms which can in no way be positively distinguished from those at the beginning of the prodromal period of general paralysis recover, but not many come under the physician's care so early. We are not yet in a position to say whether they were suffering from a mild, transient illness or from what would otherwise have become serious organic disease.

TREATMENT.—Life may be prolonged in general paralysis, and usually is prolonged, by the use of such measures as contribute to the patient's comfort, and which in a general way have already been considered under the head of treatment of mental disease on a previous page.

In my experience, stimulating tonics, wine, and even coffee, increase the morbid cerebral energy of the early stage of the disease, but are sometimes of use later. Cod-liver oil and the hypophosphites do better, and many of the disagreeable symptoms of the period of loss of control over the involuntary muscles are relieved by strychnia. Ergot and the judicious use of the bromides abate the cerebral congestion. Gastro-intestinal disorders, when not controlled by attention to diet, require the usual treatment.

Iodide of potassium in the large or small dose, and mercury, I have never found to benefit those cases of general paralysis with a previous history of syphilis. On the contrary, they have proved debilitating and harmful.

When furious excitement is not relieved by prolonged warm baths, with cool applications to the head if possible, and quiet, chloral is of use, and sometimes opium and its preparations.

Frequently-repeated violent convulsions, the epileptic state, are usually at once mitigated by chloral given by the rectum; the inhalation of nitrite of amyl is reported also to have been of use.

There are few cases in which I find that morphine does not quiet restlessness, calm delusions, abate distressing hallucinations, and make the patient generally more comfortable; and I give it freely, seldom more than twice a day, often almost daily, for two or three years. In this way it can be used in quite moderate doses. Coca also relieves symptoms.

Rest and quiet are most important in all stages of the disease. This can be best accomplished in a quiet private house in the country, which can be made a virtual hospital, and next in a private asylum. But such care is beyond the reach of the vast majority of the insane, to whom the public asylum becomes a necessity. Wherever they are, an orderly life is best for them, with as little irritating interference with their ways or control of them as is possible.

If the results of treatment are in the highest degree unsatisfactory, and consist chiefly in meeting symptoms as they come up, without hope of permanent recovery, it is not impossible that when we can put the patient under treatment at the very beginning of his disease, as we can now do in pulmonary consumption, the prognosis in the former disease may change as much for the better as it has changed in the latter.

A general paralytic is at any time liable to congestive or maniacal

attacks of short duration, and so is always, potentially, a dangerous person. In the prodromal period the risk is small; in all stages there will, in the majority of cases, be some warning; but in the developed disease the only safe way is to have some responsible person near at hand, both to prevent the patient from doing harm to others and to save him from injuring himself, whether by intent or through not knowing better than to wander off or fall into all sorts of accidents. In many conditions several should be readily available, or else the security of an asylum must be sought.

In the treatment of general paralysis by society the same rule should obtain as in all forms of insanity—that distinct mental disease is presumptive proof of irresponsibility, or at least of limited responsibility; that a diseased mind means lessened intellectual power throughout and diminished ability to choose the right and avoid the wrong; that there are changes in circulation or nutrition, or some unknown condition in the brain, especially in general paralysis, by virtue of which the mental state and power of self-control vary from time to time, and as a result of which a person seeming responsible one day may have been quite irresponsible some previous day.

Insanity from Gross Lesions of the Brain (tumors, new growths of all kinds, exostoses, spicules or portions of depressed bone, embolisms, hemorrhages, wounds, injuries, cysticerci, etc.) is attended with the usual indications of those conditions which may determine diffuse disorders of the brain, giving rise to any of the symptoms of the various psychoneuroses and cerebro-psychoses. The lowered mental and moral tone after cerebral hemorrhages is a matter of common observation, and after one an individual is rarely observed to be fully himself again.

The prognosis is very unfavorable. Although there are rare cases of improvement, the tendency is toward profound dementia.

Cerebral Syphilitic Insanity comes either under the head of the insanity last described or belongs to the slowly-advancing dementia with final paralysis already referred to under the head of Diagnosis in General Paralysis, and called by some authorities on mental disease pseudo-paralytic dementia from syphilis.

Antisyphilitic treatment is of value in the first class of cases, and although most of the recoveries end in relapses and incurability, the prolonged use of iodide of potassium seems sometimes to effect a permanent cure. It is claimed that similar treatment is followed by the same result in the cases of dementia with paresis, but the weight of authority, and certainly my own experience, are against that statement.

Chronic Alcoholic Insanity depends upon the vascular and other changes due to abuse of alcohol so long continued that the pathological condition has become organic and incurable. It is commonly associated with delusions of suspicion or persecution. It may be a purely moral insanity, with gross beliefs rather than distinctly insane delusions, and it rarely fails to be at least that when the persistent excessive drinking is kept up until the age of beginning dissolution of the brain. It then gives rise to all sorts of embarrassing complications in regard to property, family relations, and wills. Chronic alcoholic insanity may take the form of mild dementia, by virtue of which the patient cannot control himself, but can be easily kept within bounds of reasonable conduct by various degrees of restraint, from the constant presence of a responsible

person to the seclusion of an asylum. In well-marked cases this dementia is associated with muscular weakness, tremor, and exhilaration to such an extent as to simulate general paralysis. It is then called by some—especially French—writers pseudo-paralytic dementia from alcohol.

The condition is susceptible of improvement by removal of the cause, alcohol, and by a carefully-regulated life, hydropathic treatment, etc., but complete recoveries cannot be expected.

SECONDARY DELUSIONAL INSANITY is slowly developed from various mental diseases, incurable or uncured, where the progress to marked dementia is slow, by the persistence of delusions in those forms of insanity characterized by delusions. It is chronic and incurable. In melancholia and mania the mental depression and the exaltation and motor excitement disappear to a great extent, and there are left a slowly-advancing dementia, confusion, and expanding delusions, with apathy or with agitation, for which the asylum is the only safe place unless physical weakness makes the patient harmless. It is either a terminal state in which many forms of insanity end, or a stage through which they pass to terminal dementia. It depends upon incurable, and therefore organic, changes in the brain, like all incurable insanity, although those changes are not yet determined exactly. It might be a question whether chronic delusional insanity properly belongs under the head of Organic Mental Diseases, and a similar criticism may be made regarding terminal dementia. But in this paper no definite classification of insanity is attempted, because our knowledge of the subject is still so indefinite, although the several mental diseases are grouped in a certain order for convenience to the reader and the writer; and this order of course approximately follows natural lines.

TERMINAL DEMENTIA is the end to which most of the insanity not resulting in recovery finally comes. The features marking the disease in its early stages for the most part disappear, leaving all the functions of the mind impaired in all degrees up to total extinction—the whole character on a lower plane. It is the disease which to so great an extent crowds the wards of insane asylums and almshouses with the (1) agitated or (2) apathetic chronic insane, the worst of whom are mental and physical wrecks, squatting on floors, uttering an unintelligible jargon, noisy, filthy, without intelligence for the simplest natural wants. Their chief function, under the prevalent methods of construction and management of lunatic hospitals in most places, is to blight with a certain feeling of hopelessness many of the curable insane who are obliged to go for rest and quiet to institutions where the overwhelming majority of the inmates are manifestly and painfully incurable.

French writers include a great part of chronic delusional insanity (secondary confusional insanity, Wahnsinn, secundäre Verrücktheit) and terminal dementia (Blödsinn) under one head, démence; and with much reason, as it is not always possible to differentiate between the two.

The proper TREATMENT of the incurable, demented insane should provide not only that they be not at large, where they annoy the strong and the well, but also that they shall not disturb the insane who are acutely ill and in need of treatment suited to sick people, and whose chances of recovery at best are none too favorable. Experiments, now quite numerous, have shown that the lives and occupations of many of them may be

made not entirely unlike those to which they were reared, and that nearly all may be suitably provided for without the expensive hospitals and appliances necessary for the proper treatment of acute mental disease.

A comparison of countries in which there is and is not a comprehensive system of State supervision of the insane by a competent board seems to me to reveal so unquestionably the fact that such a system alone provides the proper protection for the insane, and the needed variety and uniformly high standard of excellence in the provisions for their treatment, that I hope to see the medical profession using its vast influence upon public opinion to secure it.

If we meet in the wards of our insane asylums hopeless mental and physical wrecks, if we find there the extremity of human wretchedness, the supreme control of all that is evil or vile in our nature, the worst antitypes of all the virtues, so, on the other hand, nowhere else do we see such struggles for the mastery of the better impulses, such efforts against such odds to hold back the mind in an unequal fight. Nowhere else, too, are developed finer sympathy, more beautiful unselfishness, more generous charity, or more heroic resignation where no hope in life remains but for death.

The State has taken charge of these most unfortunate people, shutting up behind the same locked doors and barred windows people of all social grades, often mingling together in one presence the so-called criminal insane, insane criminals, idiots, imbeciles, epileptics, paralytics, the chronic insane, and the demented, with patients suffering from acute mental disease. Some of them are unconscious of their condition, many are better off than ever before, but others are painfully alive to their situation and surroundings, fully aware of the gravity of their illness, keenly sensitive to the distressing sights and associations, disturbed by the noises, and discouraged by the many chances of becoming like the worst incurables around them. The State cannot evade the responsibility of seeing that their confinement is made the least rigorous, wretched, and injurious possible.