

LECTURE III.

GENTLEMEN: In my last lecture I showed how large a part in the production of insanity is played by the hereditary neurosis, and pointed out the necessity of scrutinizing more closely than has yet been done the features of the different forms of mental derangement that own its baneful influence. Past all question it is the most important element in the causation of insanity. It cannot be in the normal order of events that a healthy organism should be unable to bear ordinary mental trials, much less a natural physiological function such as the evolution of puberty, the puerperal state, or the climacteric change. When, therefore, the strain of grief or one of these physiological conditions becomes the occasion of an outbreak of insanity, we must look for the root of the ill in some natural infirmity or instability of nerve-element. Not until we apply ourselves earnestly to an exact observation and discrimination of all the mental and bodily conditions which coöperate in the causation, and are manifested in the symptoms, of the manifold varieties of insanity, shall we render more precise and satisfactory our knowledge of its causes, its classification, and its treatment. How unscientific it appears when we reflect, to enumerate, as is commonly done, sex and age among its predisposing causes! No one goes mad because he or she happens to be a man or a woman, but because to each sex, and at certain ages, there occur special physiological changes, which are apt to run into pathological effects in persons predisposed to nervous dis-

order. How often it happens that a moral cause of insanity is sought and falsely found in a state of mind such as grief or jealousy, which is really an early symptom of the disease! Again, how vague and unsatisfactory the accepted psychological classification of insanity, under which forms of disease distinct enough to claim separate descriptions are included in the same class! It is obvious that we learn very little of value from an account of the treatment of mania generally when there are included under the class diseases so different as puerperal mania, the mania of general paralysis, syphilitic, epileptic, and hysterical mania, each presenting features and requiring treatment in some degree special. The hope and the way of advance in our knowledge of mental disorders lie in the exact observation of the varieties of the insane diathesis, and of the effects of bodily functions and disorders upon these; in noting carefully the bodily as well as mental symptoms that characterize the several forms of derangement of mind; and in tracing the relations of mental to other disorders of the nervous system. We must aim to distinguish well if we would teach well—to separate the cases that exhibit special features and relations, and to arrange them in groups or classes according to their affinities, just as we do habitually with general paralysis, and as I did in my last lecture with epileptic mania.

Following this plan, we might in like manner make of *hysterical* insanity a special variety. An attack of acute maniacal excitement, with great restlessness, rapid and disconnected but not entirely incoherent conversation, sometimes tending to the erotic or obscene, evidently without abolition of consciousness; laughing, singing, or rhyming, and perverseness of conduct, which is still more or less coherent and seemingly wilful—may occur in connection with, or instead of, the usual hysterical convulsions. Or the ordinary hysterical symptoms may pass by degrees into chronic insanity. Loss of power of will is a characteristic symptom of hysteria in all its Protean forms, and with the perverted sensations

and disordered movements there is always some degree of moral perversion. This increases until it swallows up the other symptoms: the patient loses more and more of her energy and self-control, becoming capriciously fanciful about her health, imagining or feigning strange diseases, and keeping up the delusion or the imposture with a pertinacity that might seem incredible, getting more and more impatient of the advice and interference of others, and indifferent to the interests and duties of her position. Outbursts of temper become almost outbreaks of mania, particularly at the menstrual periods. An erotic tinge may be observable in her manner of behavior; and occasionally there are quasi-ecstatic or cataleptic states. It is an easily-curable form of derangement if the patient be removed in time from the anxious but hurtful sympathies and attentions of her family, and placed under good moral control; but, if it be allowed to go on unchecked, it will end in dementia, and it is especially apt to do so when there is a marked hereditary predisposition.

In some instances we observe a curious connection between insanity and neuralgia, not unlike that which, existing between epilepsy and a special form of neuralgia, induced Trousseau to describe the latter as epileptiform. I have under observation now a lady who suffered for some time from an intense neuralgia of the left half of the face; after the removal of a tooth suspected to be at the root of the mischief the pain ceased, but an attack of melancholia immediately followed. Griesinger mentions a similar case of a gentleman under his care, in whom a double occipital neuralgia was followed by a melancholic state of mind. In his "Commentaries on Insanity," Dr. Burrows tells of a very eloquent divine who was always maniacal when free from pains in the spine, and sane when the pains returned to that site. And the late Sir B. Brodie mentions two cases of a similar kind: in one of them a neuralgia of the vertebral column alternated with true insanity. These cases appear to be instances of the transference of morbid action from one nerve-centre to

another, such as Dr. Darwin formerly noticed and commented on. "Mrs. C——," he says, "was seized every day, about the same hour, with violent pain in the right side of her bowels, about the situation of the lower edge of the liver, without fever, which increased for an hour or two, till it became quite intolerable. After violent screaming she fell into convulsions, which terminated sometimes in fainting, with or without stertor, as in common epilepsy; at other times a temporary insanity supervened, which continued about half an hour, and the fit ceased." It seems not unreasonable to suppose that the morbid action in the sensory centres, which the violent neuralgia implied, was at one time transferred to the motor centres, giving rise to convulsive movements, and at another time to the mind-centres, giving rise to convulsive ideas. There is a form of neuralgia which is the analogue of a convulsion, and there is a mania which is the counterpart, in the highest nerve-centres, of neuralgia and convulsions in their respective centres. Perhaps if we had the power in some cases of acute insanity to induce artificially a violent neuralgia, or general convulsions—to transfer the morbid action from the mind-centres—we might, for the time being at any rate, cure the insanity.

I pass on now to exhibit the effects of organic sympathies in the causation of mental disorders, or rather the specific effects of particular organs upon the features of different forms of insanity. In my first lecture I pointed out that there is the closest physiological consent of functions between the different organs; that the brain, as the organ of mind, joins in this consent; and that our ideas and feelings are obtained by the concurrence of impressions from the internal organs of the body and the external organs of the senses. The consequence is, that derangement of an internal organ, acting upon the brain, may engender, by pathological sympathy, morbid feelings and their related ideas. The mental effects may be general or specific: a general emotional depression through which all ideas loom gloomy, of which

every one's experience testifies; and a special morbid feeling with its particular sympathetic ideas, of which the phenomena of dreaming and insanity yield illustrations.

The slight shades of this kind of morbid influence we cannot venture to trace; but it is easy to recognize the most marked effects. Take, for example, the irritation of ovaries or uterus, which is sometimes the direct occasion of *nymphomania*—a disease by which the most chaste and modest woman is transformed into a raging fury of lust. Some observers have, without sufficient reason I think, made of *nymphomania* a special variety, grouping under the term cases in which it was a prominent symptom. But it certainly occurs in forms of mania that are quite distinct—in puerperal mania, for example, in epileptic mania, and in the mania sometimes met with in old women; and the cases in which it does occur have not such characteristic features as warrant the formation of a definite group. We have, indeed, to note and bear in mind how often sexual ideas and feelings arise and display themselves in all sorts of insanity; how they connect themselves with ideas which in a normal mental state have no known relation to them; so that it seems as inexplicable that a virtuous person should ever have learned, as it is distressing that she should manifest, so much obscenity of thought and feeling. Perhaps it is that such ideas are excited sympathetically in a morbidly active brain by unrelated ideas, just as, in other nervous disorders, sympathetic morbid sensations and movements occur in parts distant from the seat of the primary irritation. Considering, too, what an important agent in the evolution of mind the sexual feeling is, how much of thought, feeling, and energy it remotely inspires, there is less cause for wonder at the naked intervention of its simple impulses in the phenomena of mania, when coördination of function is abolished in the supreme centres, and the mind resolved, as it were, into its primitive animal elements. This should teach us to take care not to attribute too hastily the sexual feelings to a morbid irritation of the

sexual organs. It is plain that they may have a purely central origin, just as the excitation of them in health may proceed from the mind. Here, in fact, as in other cases, we must bear in mind the reciprocal influence of mind on organ, and of organ on mind.

The great mental revolution which occurs at puberty may go beyond its physiological limits, in some instances, and become pathological. The vague feelings, blind longings, and obscure impulses, which then arise in the mind, attest the awakening of an impulse which knows not at first its aim or the means of its gratification; a kind of vague and yearning melancholy is engendered, which leads to an abandonment to poetry of a gloomy Byronic kind, or to indulgence in indefinite religious feelings and aspirations. There is a want of some object to fill the void in the feelings, to satisfy the undefined yearning—a need of something to adore; consequently, where there is no visible object of worship the invisible is adored. The time of this mental revolution is, at best, a trying period for youth; and, where there is an inherited infirmity of nervous organization, the natural disturbance of the mental balance may easily pass into actual destruction of it.

The form of derangement connected with this period of life I believe to be either a fanciful and quasi-hysterical melancholia, which is not very serious when it is properly treated; or an acute mania, which is apt to be recurrent, and is much more serious. The former occurs especially in girls, if it be not peculiar to them; there are periods of depression and paroxysms of apparently causeless weeping, alternating with times of undue excitability, more especially at the menstrual periods; a disinclination is evinced to work, to rational amusement, to exertion of any kind; the behavior is capricious, and soon becomes perverse and wilful; the natural affections seem to be blunted or abolished, the patient taking pleasure in distressing those whose feelings she would most consider when in health; and, although there are no fixed

delusions, there are unfounded suspicions or fears and changing morbid fancies. The anxious sympathies of those most dear are apt to foster the morbid self-feeling which craves them, and thus to aggravate the disease: what such patients need to learn is, not the indulgence but a forgetfulness of their feelings, not the observation but the renunciation of self, not introspection but useful action. In some of these cases, where the disease has become chronic, delusions of sexual origin occur, and the patient whose virginity is intact imagines that she is pregnant or has had a baby.

The morbid self-feeling that has its root in the sexual system is not unapt to take on a religious guise. We observe examples of this in certain members of those latter-day religious sects which profess to commingle religion and love, and which especially abound in America. No physiologist can well doubt that the holy kiss of love in such cases owes all its warmth to the sexual feeling which consciously or unconsciously inspires it, or that the mystical union of the sexes lies very close to a union that is nowise mystical, when it does not lead to madness. A similar intimate connection between fanatical religious exaltation and sexual excitement is exemplified by the lives of such religious enthusiasts as St. Theresa and St. Catherine de Sienne, whose nightly trances and visions, in which they believed themselves received as veritable spouses into the bosom of Christ and transported into an unspeakable ecstasy by the touch of His sacred lips, attested, though they knew it not, the influence of excited sexual organs on the mind. More extreme examples of a like pathological action are afforded by those insane women who believe themselves to be visited by lovers or ravished by persecutors during the night. Sexual hallucinations, betraying an ovarian or uterine excitement, might almost be described as the characteristic feature of the insanity of old maids; the false visions of unreal indulgence being engendered probably in the same way as visions of banquets occur in the dreams of a starving person, or as visions of cooling streams to one

who is perishing of thirst. It seems to be the fact that, although women bear sexual excesses better than men, they suffer more than men do from the entire deprivation of sexual intercourse.

The development of puberty may lead indirectly to insanity by becoming the occasion of a vicious habit of self-abuse in men; and it is not always easy to say in such cases how much of the evil is due to pubescence and how much to self-abuse. But the form of mental derangement directly traceable to self-abuse has certainly characteristic features. There are no acute symptoms, the onset of the disease being most gradual. The patient becomes offensively egotistic and impracticable; he is full of self-feeling and self-conceit; insensible to the claims of others upon him, and of his duties to them; interested only in hypochondriacally watching his morbid sensations, and attending to his morbid feelings. His mental energy is sapped; and though he has extravagant pretensions, and often speaks of great projects engendered by his conceit, he never works systematically for any aim, but exhibits an incredible vacillation of conduct, and spends his days in indolent and suspicious self-brooding. His relatives he thinks hostile to him, because they do not take the interest in his sufferings which he craves, nor yield sufficiently to his pretensions, but perhaps urge him to some kind of work; he is utterly incapable of conceiving that he has duties to them. As matters get worse, the general suspicion of the hostility of people takes more definite form, and delusions spring up that persons speak offensively of him, or watch him in the street, or comment on what passes in his mind, or play tricks upon him by electricity or mesmerism, or in some other mysterious way. His delusions are the objective explanation, by wrong imagination, of the perverted feelings. Messages may be received from Heaven by peculiar telegraphic signals; and there are occasionally quasi-cataleptic trances. It is strange what exalted feelings and high moral and religious aims these patients will often declare they have, who, incapa-

ble of reforming themselves, are ready to reform the world. A later and worse stage is one of moody or vacant self-absorption, and of extreme loss of mental power. They are silent, or, if they converse, they discover delusions of a suspicious or obscene character, the perverted sexual passion still giving the color to their thoughts. They die miserable wrecks at the last. This is a form of insanity which certainly has its special exciting cause and its characteristic features; nevertheless, I think that self-abuse seldom, if ever, produces it without the coöperation of the insane neurosis.

The monthly activity of the ovaries which marks the advent of puberty in women has a notable effect upon the mind and body; wherefore it may become an important cause of mental and physical derangement. Most women at that time are susceptible, irritable, and capricious, any cause of vexation affecting them more seriously than usual; and some who have the insane neurosis exhibit a disturbance of mind which amounts almost to disease. A sudden suppression of the menses has produced a direct explosion of insanity; or, occurring some time before an outbreak, it may be an important link in its causation. It is a matter also of common experience in asylums, that exacerbations of insanity often take place at the menstrual periods; but whether there is a particular variety of mental derangement connected with disordered menstruation, and, if so, what are its special features, we are not yet in a position to say positively. There is certainly a recurrent mania, which seems sometimes to have, in regard to its origin and the times of its attacks, a relation to the menstrual function, suppression or irregularity of which often accompanies it; and it is an obvious presumption that the mania may be a sympathetic morbid effect of the ovarian and uterine excitement, and may represent an exaggeration of the mental irritability which is natural to women at that period. The patient becomes elated, hilarious, talkative, passing soon from that condition into a state of acute and noisy mania, which may last for two or three

weeks or longer, and then sinking into a brief stage of more or less depression or confusion of mind, from which she awakens to calmness and clearness of mind. In vain we flatter ourselves with the hope of a complete recovery; after an interval of perfect lucidity, of varying duration in different cases, the attack recurs, goes through the same stages, and ends in the same way, only to be followed by other attacks, until at last, the mind being permanently weakened, there are no longer intervals of entire lucidity. Could we stop the attacks, the patient might still regain by degrees mental power; but we cannot. All the resources of our art fail to touch them, and I know no other form of insanity which, having so much the air of being curable, thus far defies all efforts to stay its course. We should be apt to conclude that it was connected with the menstrual function, were it not that periodicity is more or less the law of all nervous diseases, that its attacks often recur at uncertain intervals, and, more decisive still, that it is not confined to women, but occurs perhaps as often in men. Whether connected or not, however, in any way with the generative functions, it certainly presents features of relationship to epilepsy, and occurs where the insane neurosis exists; and, if I were to describe it in a few words, I should designate it an epilepsy of the mind. Its recurrence more or less regularly; the uniformity of the prodromata and of the symptoms of the attack, each being almost an exact image of the other; its comparatively brief duration; the mental torpor or confusion which follows it, and the ignorance or denial sometimes, on the part of the patient, of his having had the attack; the temporary recovery; and the undoubted fact that it often occurs where there is evidence of an insane neurosis produced by epilepsy, or insanity, or both, in the family; these are facts which support the opinion of its kinship to epilepsy. I have under my care an unmarried lady who for many years has been subject to these recurrent attacks of mania, and whose intelligence has now been destroyed by them; ulti-

mately true epileptic fits supervened, but they only occur, at long intervals, usually not oftener than twice a year, while the maniacal attacks recur regularly every three or four weeks. It is of some interest, in regard to the question of its nature, that the age of its most frequent outbreak is, as it is with epilepsy, the years that cover the development of puberty. Irregularity or suppression of menstruation may or may not be present, so that we are not warranted in attributing the disease to amenorrhœa or dysmenorrhœa; we are the less warranted in doing so, as any form of insanity, however caused, may occasion a suppression of the menses.

The natural cessation of menstruation at the change of life is accompanied by a revolution in the economy which is often trying to the mental stability of those who have a predisposition to insanity. The age of pleasing is past, but not always the desire, which, indeed, sometimes grows then more exacting; there are all sorts of anomalous sensations of bodily distress, attesting the disturbance of circulation and of nerve functions; and it is now that an insane jealousy and a propensity to stimulants are apt to appear, especially where there have been no children. When positive insanity breaks out, it usually has the form of profound melancholia, with vague delusions of an extreme character, as that the world is in flames, that it is turned upside down, that every thing is changed, or that some very dreadful but undefined calamity has happened or is about to happen. The countenance has the expression of a vague terror and apprehension. In some cases short and transient paroxysms of excitement break the melancholy gloom. These usually occur at the menstrual periods, and may continue to do so for some time after the function has ceased. It is not an unfavorable form of insanity as regards probability of recovery under suitable treatment.

Continuing the consideration of the influence of the generative organs in the production of insanity, I come now to puerperal insanity. Under this name are sometimes con-

founded three distinct varieties of disease—that which occurs during pregnancy, that which follows parturition and is properly puerperal, and that which comes on months afterward during lactation.* The insanity of pregnancy is, as a rule, of a marked melancholic type, with suicidal tendency; a degree of mental weakness or apparent dementia being sometimes conjoined with it. Other cases, however, exhibit much moral perversion, perhaps an uncontrollable craving for stimulants, which we may regard as an exaggerated display of the fanciful cravings from which women suffer in the earlier months of pregnancy. We can hardly fail, indeed, to recognize a connection between the features of this form of insanity and the strange longings, the capriciousness, and the morbid fears, of the pregnant woman. The patient may be treated successfully by removal from home; but, if the disease be allowed to go on, there is no good ground to expect that parturition will have a beneficial effect upon it; on the contrary, the probability is, that it will run into a severe puerperal insanity, and from that into dementia.

Puerperal insanity proper comes on within one month of parturition; and, like the insanity of pregnancy, occurs most often in primiparæ. The statistics of the Edinburgh Asylum show that in all the cases occurring before the sixteenth day after labor, as most cases do, the symptoms were those of acute mania; but in all the cases which occurred after the sixteenth day they were those of melancholia. In both forms, but especially in the latter, there is sometimes a mixture of childishness and apparent dementia. The mania is more likely than the melancholia to get well. It is of an acute and extremely incoherent character, a delirious rather than a systematized mania, marked by noisy restlessness, sleeplessness, tearing of clothes, hallucinations, and in some cases by great salacity, which is probably the direct mental effect of the irritation of the generative organs. Suicide may be attempted

* "The Insanity of Pregnancy, Puerperal Insanity, and Insanity of Lactation." By J. Batty Tuke, M. D.

in an excited, purposeless way. The bodily symptoms, contradicting the violence of the mental excitement, indicate feebleness; the features are pinched; the skin is pale, cold, and clammy; and the pulse is quick, small, and irritable. We may safely say that recovery takes place in three out of four cases of puerperal mania, usually in a few weeks; the patient, after the acute symptoms have subsided, sinking into a temporary state of confusion and feebleness of mind, and then waking up as from a dream. I may add the expression of a conviction that no good, but rather harm, is done by attempting to stifle this or any other form of acute insanity by the administration of large doses of opium.

The insanity of lactation does not come under the scheme of this lecture; for it is an asthenic insanity, produced by bodily exhaustion and the depression of mental worries. The time of its occurrence seems to show that the longer the child is suckled the greater is the liability to it; and in the majority of cases it has the form of melancholia, often with determined suicidal tendency.

So frequently is hereditary predisposition more or less distinctly traceable in these three forms of insanity occurring in connection with child-bearing, that we are warranted in declaring it quite exceptional for any one of them to be met with where it is entirely absent.

I have now enumerated all the forms of insanity which, being specially connected with the generative organs, present characteristic features. It is certain, however, that disease of them may act as a powerful coöperating cause in the production of insanity, without giving rise, so far as we know, to a special group of symptoms. Thus, for example, melancholia, distinguishable by no feature from melancholia otherwise caused, may be the effect of disease of the uterus. Schröder van der Kolk mentions the case of a woman profoundly melancholic who suffered from prolapsus uteri, and in whom the melancholia disappeared when the uterus was returned to its proper place. Flemming relates two similar

cases in which melancholia was cured by the use of a pessary, the depression returning in one of them whenever the pessary was removed; and I have met with one case in which profound melancholia of two years' standing disappeared after the removal of a prolapsus uteri. Other diseases and displacements of the uterus may act in a similar way.

Let me now say a few words concerning the abdominal organs. No one will call in question that the states of their functions do exert a positive influence on our states of mind; but it is unfortunately too true that we cannot yet refer any special mental symptoms to the influence of the abdominal organs. I have met with one case of severe melancholia, of long standing, which was distinctly cured by the expulsion of a tape-worm; and it appears to be tolerably certain that hypochondriacal insanity is in some instances connected with, if not caused by, a perverted sensation proceeding from an internal organ, most often abdominal. In health we are not conscious of the impressions which these organs make upon the brain, albeit they assuredly send their unperceived contributions to the stream of energies of which consciousness is the sum and the outcome; but, when a disordered organ sends a morbid impression to the brain, it no longer does its work there in silence and self-suppression, but asserts itself in an unwonted affection of consciousness. The hypochondriac cannot withdraw his attention from the morbid sensation to which it is irresistibly attracted, and which it aggravates; his interest in all things else is gradually quenched, and his ability to think and act freely in the relations of life sapped. The step from this state to positive insanity is not a great one: the strange and distressing sensation, being so anomalous, so unlike any thing of which the patient has had experience, affecting him so powerfully and so unaccountably, gets at last an interpretation that seems suited to its extraordinary character; and he then imagines that some animal or man or devil has got inside him and is tormenting him. He has now a hallucination of the organic sense which

dominates his thoughts, and he is truly insane. Not long since I saw a patient who believed that he had a man in his belly; when his bowels were constipated, the delusion became active, he made desperate efforts by vomiting to get rid of his tormentor, and was then surly, morose, and dangerous; but, when his bowels had been relieved, the delusion subsided into the background, and he was good-tempered and industrious. If a patient, instead of attributing his sufferings to an absurdly impossible cause, ascribes them to a serious internal disease which he certainly has not got, there will be a difficulty in deciding whether he is insane or not, should he do injury to himself or others, as hypochondriacal melancholics sometimes do. It is a probable surmise that in those cases of insanity in which there are such delusions as that food will not enter the stomach, that there is no digestion, that the intestines are sealed up, there is a cause in a morbid irritation ascending from the viscera to the brain. I am furthermore disposed to think that a form of fearful melancholia in which the patient evinces an extreme morbid sensitiveness to his every thought, feeling, and act, in which he is, as it were, hypochondriacally distressed about whatever he thinks, feels, and does, imagining it, however trivial and innocent, to be a great sin, which has cost him his happiness in time and eternity, has its foundation in certain morbid states of abdominal sensation. In cases of this sort, the delusion is not the cause of the feeling of despair, but is, as it were, a condensation from it, and an attempted interpretation of it. The same thing is observed in dreams: the images and events of a distressing dream are not the causes of the feelings, but are caused by them; they undergo strange and sudden metamorphoses without causing much or any surprise, and they disappear together with the terror the moment we awake, which would not be the case if they really caused the terror. We perceive, indeed, in this generation of the image out of the feeling, the demonstration of the true nature of ghosts and apparitions; the nervous system being in an excited

state of expectant fear, and the images being the effects and exponents of the feeling: they give the vague terror form. Accordingly, as Coleridge has remarked, those who see a ghost under such circumstances do not suffer much in consequence, though in telling the story they will perhaps say that their hair stood on end, and that they were in an agony of terror; whereas those who have been really frightened by a figure dressed up as a ghost have often suffered seriously from the shock, having fainted, or had a fit, or gone mad. In like manner, if an insane person actually saw the dreadful things which he imagines that he sees sometimes, and really thought the terrible thoughts which he imagines he thinks, he would suffer in health more than he does, if he did not actually die of them.

I come now to the thoracic organs. The heart and the lungs are closely connected in their functions, so that they mutually affect one another. Some diseases of the lungs greatly oppress and trouble the heart; yet there is reason to believe that they have their special effects upon the mind. How, indeed, can we think otherwise when we contrast the sanguine confidence of the consumptive patient with the anxious fear and apprehension exhibited in some diseases of the heart? It used to be said that disease of the heart was more frequent among the insane than among the sane; but the latest observations do not afford any support to the opinion, nor do they furnish valid grounds to connect a particular variety of insanity with heart-disease in those cases in which it does exist. All that we are thus far warranted in affirming is, that if there be a characteristic mental effect of such disease, it is a great fear, mounting up at times to despairing anguish; and perhaps I may venture to add that, if there be a variety of mental disorder specifically connected with heart-disease, it is that form of melancholia in which the patient is overwhelmed with a vague and vast apprehension, where there is not so much a definite delusion as a dreadful fear of every thing actual and possible, and which is sometimes described as *panphobia*.

There has long been an opinion, which seems to be well founded, that tubercle of the lungs is more common among the insane than among the sane. For although the proportion of deaths in asylums attributed to phthisis is one-fourth, which is the same proportion as that for the sane population above fourteen years of age, Dr. Clouston has shown, by careful scrutiny of the records of 282 *post-mortem* examinations made in the Edinburgh Asylum, that phthisis was the assigned cause of death in only a little more than half of the cases in which there was tubercle in the body. The symptoms of phthisis are so much masked in the insane, there being usually no cough and no expectoration, that its diagnosis is difficult, and it is not always detected during life. The relation between it and insanity has been noticed by several writers: Schröder van der Kolk was distinctly of opinion that an hereditary predisposition to phthisis might predispose to, or develop into, insanity, and, on the other hand, that insanity predisposed to phthisis; and Dr. Clouston found that hereditary predisposition to insanity existed in seven per cent. more of the insane who were tubercular than of the insane generally. When family degeneration is far gone, the two diseases appear to occur frequently, and the last member is likely to die insane or phthisical, or both; whether, therefore, they mutually predispose to one another or not, they are often concomitant effects in the course of degeneration. However, in weighing the specific value of these observations, we must not forget that, independently of any special relation, the enfeebled nutrition of tuberculosis will tend to stimulate into activity the latent predisposition to insanity; and that, in like manner, insanity, especially in its melancholic forms, will favor the actual development of a predisposition to phthisis.

In the cases in which the development of phthisis and insanity has been nearly contemporaneous, which are about one-fourth of the cases in which they coexist, the mental symptoms are of so peculiar and uniform a character as to

have led to the inclusion of the cases in a natural group under the designation of *phthisical mania*. They have no positively distinctive symptom, it is true; they cannot be separated from other cases by a well-defined line of demarcation. Yet they do exhibit, Dr. Clouston believes, certain common and uniform characters which justify their description as a separate variety. They often begin in an insidious way by irritability, waywardness, and capriciousness of conduct, and apparent weakening of intellect; yet the patient converses rationally when he chooses to talk, and shows that he still has his intellect, albeit there is a great disinclination to exert it. To sign a certificate of his insanity would be no easy matter. Or they begin with an acutely maniacal or melancholic stage, which is, however, of very short duration, soon passing into a half-maniacal, half-demented state. If there be a single characteristic feature, it is a monomania of suspicion. As the disease advances, the symptoms of dementia predominate; but there are occasional brief attacks of irritable excitement and fitful flashes of intelligence. And in these cases, more often than in other cases, there occurs a momentary revival of intelligence before death. We shall the more readily admit the special features of phthisical mania when we call to mind that there is in most phthisical patients a peculiar mental state; and that brief attacks of temporary mania or delirium sometimes occur in the course of phthisis. The phthisical patient is irritable, fanciful, unstable of purpose, brilliant, and imaginative, but wanting in calmness and repose, quick of insight, but without depth and comprehension; every thing is fitful—fitful energy, fitful projects, fitful flashes of imagination. The hectic is in his thoughts and in his actions. The whims and imaginings of his mind become almost wanderings at times, his fancies almost delusions.

I have now said enough concerning the sympathetic mental effects of disordered organs, not certainly to set forth adequately their nature, but to show the essential importance

of a careful study of them. To complete the exposition of the action of pathological sympathies on mind, it would be necessary to trace out the close relations that there are between the organic feelings and the different kinds of special sensibility—between systemic and sense consciousness. The digestive organs have a close sympathy with the sense of taste, as we observe in the bad taste accompanying indigestion, in the nausea and vomiting which a nauseous taste may cause, and in the avoidance of poisonous matter by animals. The respiratory organs and the sense of smell are, in like manner, sympathetically associated; and there can be no doubt that the sense of smell has special relations with the sexual feeling. The state of the digestive organs notably affects the general sensibility of the skin. Disturbances of these physiological sympathies may become the occasions of insane delusions. Digestive derangement, perverting the taste, will engender a delusion that the food is poisoned. Disease of the respiratory organs appears sometimes to produce disagreeable smells, which are then perhaps attributed to objective causes, such as the presence of a corpse in the room, or to gases maliciously disseminated in it by fancied persecutors. In mania, smell and taste are often grossly perverted, for the patient will devour, with seeming relish and avidity, dirt and garbage of the most offensive kind. Increase, diminution, or perversion of the sensibility of the skin, one or other of which is not uncommon among the insane, may undoubtedly be the cause of extravagant delusions. We hardly, indeed, realize how completely the mind is dependent upon the habit of its sensations. The man who has lost a limb can hardly be persuaded that he has lost it, so sensible is he of the accustomed feelings in it; years after he has lost it he dreams of vivid sensations and of active movements in it—has, in fact, both sensory and motor hallucinations. It is easy, then, to understand how greatly abnormal sensations may perplex and deceive the unsound mind. A woman under Esquirol's care had complete anæsthesia of the skin: she

believed that the devil had carried off her body. A soldier who was wounded at the battle of Austerlitz lost the sensibility of his skin, and from that time thought himself dead. When asked how he was, he replied, "Lambert no longer lives; a cannon-ball carried him away at Austerlitz. What you see is not Lambert, but a badly-imitated machine," which he always spoke of as *it*. A patient under my care, who suffered from general paralysis, and had lost sensibility and voluntary power of one side, could never be persuaded that another patient, a very harmless fellow, had not got hold of him, and was keeping him down; and when convulsions occurred in the paralyzed side, as they did from time to time, he swore terribly at his fancied tormentor. Were a sane person to wake up some morning with the cutaneous sensibility gone, or with a large area of it sending up to the brain perverted and quite unaccountable impressions, it might be a hard matter perhaps for him to help going mad.

The mental effects of perverted sensation afford a promising field for future research; when better understood it cannot be doubted that they will explain many phenomena in the pathology of mind that now quite baffle explanation. It behooves us to clearly realize the broad fact, which has most wide-reaching consequences in mental physiology and pathology, that all parts of the body, the highest and the lowest, have a sympathy with one another more intelligent than conscious intelligence can yet, or perhaps ever will, conceive; that there is not an organic motion, visible or invisible, sensible or insensible, ministrant to the noblest or to the most humble purposes, which does not work its appointed effect in the complex recesses of mind; that the mind, as the crowning achievement of organization, and the consummation and outcome of all its energies, really comprehends the bodily life.

I had originally set down within the purpose of these Lectures the consideration, which I must now forego, of the influence of the quantity and quality of the blood in the production of insanity. Poverty and vitiation of blood may

certainly play a weighty part in producing mental, as they do in producing other nervous disorders. Lower the supply of blood to the brain below a certain level, and the power of thinking is abolished; the brain will then no more do mental work than a water-wheel will move the machinery of the mill when the water is lowered so as not to touch it. When a strong emotion produces a temporary loss of consciousness, it is to be presumed that a contraction of arteries takes place within the brain similar to that which causes the pallor of the face; and when the laboring heart pumps hard to overcome the obstruction, and the walls of the vessels are weak, they may burst, and the patient die of effusion of blood. During sleep the supply of blood to the brain is lessened naturally, and we perceive the effects of the lowering of the supply, as it takes place, in the sort of incoherence or mild delirium of ideas just before falling off to sleep. To a like condition of things we ought most probably to attribute the attacks of transitory mania or delirium that occur now and then in consequence of great physical exhaustion, as from great and sudden loss of blood, or just as convalescence from fever or other acute disease is setting in, or in the prostration of phthisis, and which a glass of wine opportunely given will sometimes cure. The distress of the melancholic patient is greatest when he wakes in the morning, which is a time when a watch ought to be kept specially over the suicidal patient; the reason lying probably in the effects of the diminished cerebral circulation during sleep.

If the state of the blood be vitiated by reason of some poison bred in the body, or introduced into it from without, the mental functions may be seriously deranged. We are able, indeed, by means of the drugs at our command, to perform all sorts of experiments on the mind: we can suspend its action for a time by chloral or chloroform, can exalt its functions by small doses of opium or moderate doses of alcohol, can pervert them, producing an artificial delirium, by the administration of large enough doses of belladonna and Indian

hemp. We can positively do more experimentally with the functions of the mind-centres than we can do with those of any other organ of the body. When these are exalted in consequence of a foreign substance introduced into the blood, it cannot be doubted that some *physical* effect is produced on the nerve-element, which is the condition of the increased activity, not otherwise probably than as happens when a fever makes, as it certainly will sometimes do, a demented person, whose mind seemed gone past all hope of even momentary recovery, quite sensible for the time being. Perhaps this should teach us that, just as there are vibrations of light which we cannot see, and vibrations of sound which we cannot hear, so there are molecular movements in the brain which are incapable of producing thought ordinarily, not sufficing to affect consciousness, but which may do so when the sensibility of the molecules is exalted by physical or chemical modification of them.

Alcohol yields us, in its direct effects, the abstract and brief chronicle of the course of mania. At first there is an agreeable excitement, a lively flow of ideas, a revival of old ideas and feelings which seemed to have passed from the mind, a general increase of mental activity—a condition very like that which often precedes an attack of acute mania, when the patient is witty, lively, satirical, makes jokes or rhymes, and certainly exhibits a brilliancy of fancy which he is capable of at no other time. Then there follows, in the next stage of its increasing action, as there does in mania, the automatic excitation of ideas which start up and follow one another without order, so that thought and speech are more or less incoherent, while passion is easily excited. After this stage has lasted for a time, in some longer, in others shorter, it passes into one of depression and maudlin melancholy, just as mania sometimes passes into melancholia, or convulsion into paralysis. And the last stage of all is one of stupor and dementia. If the abuse of alcohol be continued for years, it may cause different forms of mental derangement, in each of

which the muscular are curiously like the mental symptoms: delirium tremens in one, an acute noisy and destructive mania in another, chronic alcoholism in a third, and a condition of mental weakness with loss of memory and loss of energy in a fourth.

Writers on gout agree that a suppressed gout may entail mental derangement in some persons; and, on the other hand, that insanity has sometimes disappeared with the appearance of the usual gouty paroxysm. Sydenham noticed and described a species of mania supervening on an epidemic of intermittent fever, which, he remarks, contrary to all other kinds of madness, would not yield to plentiful venesection and purging. Griesinger, again, has directed attention to cases in which, instead of the usual symptoms of ague, the patient has had an intermittent insanity in regular tertian or quartan attacks, and has been cured by quinine. We must bear in mind, however, that intermittence may be a feature of insanity as of other nervous diseases, without ague having any thing whatever to do with it, and without quinine doing any good whatever. Quinine will not cure the intermittence of nervous diseases, though it may cure ague in which the symptoms are intermittent. Griesinger has also pointed out that mental disorder has sometimes occurred in the course of acute rheumatism, the swelling of the joints meanwhile subsiding. These facts, with others which I cannot dwell upon now, prove how important an agency in the production of insanity a perverted state of the blood may be. But it is a mode of causation of which we know so little that I may justly declare we know next to nothing. The observation and classification of mental disorders have been so exclusively psychological that we have not sincerely realized the fact that they illustrate the same pathological principles as other diseases, are produced in the same way, and must be investigated in the same spirit of positive research. Until this be done I see no hope of improvement in our knowledge of them, and no use in multiplying books about them.

It is quite true that when we have referred all the cases of insanity which we can to bodily causes, and grouped them according to their characteristic bodily and mental features, there will remain cases which we cannot refer to any recognizable bodily cause or connect with any definite bodily disease, and which we must be content to describe as *idiopathic*. The explanation of these cases we shall probably discover ultimately in the influence of the hereditary neurosis and in the peculiarities of individual temperament. It is evident that there are fundamental differences of temperament, and it is furthermore plain that different natures will be differently favored in the struggle of existence; one person will have an advantage over another, and by the operation of the law of Natural Selection there will be a success of the fittest to succeed. It is with the development of mind in the conduct of life as it is with every form of life in its relation to its environment. Life is surrounded by forces that are always tending to destroy it, and with which it may be represented as in a continued warfare: so long as it contends successfully with them, winning from them and constraining them to further its development, it flourishes; but when it can no longer strive, when they succeed in winning from it and increasing at its expense, it begins to decay and die. So it is with mind in the circumstances of its existence: the individual who cannot use circumstances, or accommodate himself successfully to them, and in the one way or the other make them further his development, is controlled and used by them; being weak, he must be miserable, must be a victim; and one way in which his suffering and failure will be manifest will be in insanity. Thus it is that mental trials which serve in the end to strengthen a strong nature break down a weak one which cannot fitly react, and that the efficiency of a moral cause of insanity betrays a conspiracy from within with the unfavorable outward circumstances.

It behooves us to bear distinctly in mind, when we take the moral causes of insanity into consideration, that the men-

factitious

tal suffering or psychical pain of a sad emotion testifies to actual wear and tear of nerve-element, to disintegration of some kind; it is the exponent of a *physical* change. What the change is we know not; but we may take it to be beyond question that, when a shock imparted to the mind through the senses causes a violent emotion, it produces a real commotion in the molecules of the brain. It is not that an intangible something flashes inward and mysteriously affects an intangible metaphysical entity; but that an impression made on the sense is conveyed along nervous paths of communication, and produces a definite physical effect in physically-constituted mind-centres; and that the mental effect, which is the exponent of the physical change, may be then transferred by molecular motion to the muscles, thus getting muscular expression, or to the processes of nutrition and secretion, getting expression in modifications of them. When there is a native infirmity or instability of nerve-element, in consequence of bad ancestral influences, the individual will be more liable to, and will suffer more from, such violent mental commotions; the disintegrating change in the nerve-element will be more likely to pass into a disorganization which rest and nutrition cannot repair, not otherwise than as happens with the elements of any other organ under like conditions of excessive stimulation. As physicians, we cannot afford to lose sight of the physical aspects of mental states, if we would truly comprehend the nature of mental disease, and learn to treat it with success. The metaphysician may, for the purposes of speculation, separate mind from body, and evoke the laws of its operation out of the depths of self-consciousness; but the physician—who has to deal practically with the thoughts, feelings, and conduct of men; who has to do with mind, not as an abstract entity concerning which he may be content to speculate, but as a force in Nature, the operations of which he must patiently observe and anxiously labor to influence—must recognize how entirely the integrity of the mental functions de-

pend on the integrity of the bodily organization—must acknowledge the essential unity of body and mind.

To set forth this unity has been a chief aim in these Lectures, because I entertain a most sincere conviction that a just conception of it must lie at the foundation of a real advance in our knowledge both of the physiology and pathology of mind. I have no wish whatever to exalt unduly the body; I have, if possible, still less desire to degrade the mind; but I do protest, with all the energy I dare use, against the unjust and most unscientific practice of declaring the body vile and despicable, of looking down upon the highest and most wonderful contrivance of creative skill as something of which man dare venture to feel ashamed. I cannot now summarize the facts and arguments which I have brought forward; I must trust to the indulgence of your memory of them when I declare that to my mind it appears a clear scientific duty to repudiate the quotation from an old writer, which the late Sir William Hamilton used to hang on the wall of his lecture-room:

“On earth there is nothing great but man,
In man there is nothing great but mind.”

The aphorism, which, like most aphorisms, contains an equal measure of truth and untruth, is suitable enough to the pure metaphysician, but it is most unsuitable to the scientific inquirer, who is bound to reject it, not because of that which is not true in it only, but much more because of the baneful spirit with which it is inspired. On earth there are assuredly other things great besides man, though none greater; and in man there are other things great besides mind, though none greater. And whosoever, inspired by the spirit of the aphorism, thinks to know any thing truly of man without studying most earnestly the things on earth that lead up to man, or to know any thing truly of mind without studying most earnestly the things in the body that lead up to and issue in mind, will enter on a barren labor, which, if not a sorrow to

himself, will assuredly be sorrow and vexation of spirit to others. To reckon the highest operations of mind to be functions of a mental organization is to exalt, not to degrade, our conception of creative power and skill. For, if it be lawful and right to burst into admiration of the wonderful contrivance in Nature by which noble and beautiful products are formed out of base materials, it is surely much stronger evidence of contrivance to have developed the higher mental functions by evolution from the lower, and to have used forms of matter as the organic instruments of all. I know not why the Power which created matter and its properties should be thought not to have endowed it with the functions of reason, feeling, and will, seeing that, whether we discover it to be so endowed or not, the mystery is equally incomprehensible to us, equally simple and easy to the Power which created matter and its properties. To a right-thinking and right-feeling mind, the beauty, the grandeur, the mystery of Nature are augmented, not lessened, by each new glimpse into the secret recesses of her operations. The sun going forth from its chamber in the east to run its course is not less glorious in majesty because we have discovered the law of gravitation, and are able by spectral analysis to detect the metals which enter into its composition—because it is no longer Helios driving his golden chariot though the pathless spaces of the heavens. The mountains are not less imposing in their grandeur because the Oreads have deserted them, nor the groves less attractive, nor the streams more desolate, because science has banished the Dryads and the Naiads. No, science has not destroyed poetry, nor expelled the divine from Nature, but has furnished the materials, and given the presages, of a higher poetry and a mightier philosophy than the world has yet seen. The grave of each superstition which it slays is the womb of a better birth. And if it come to pass in its onward march—as it may well be it will come to pass—that other superstitions shall be dethroned as

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the sun-god has been dethroned, we may rest assured that this also will be a step in human progress, and in the beneficent evolution of the Power which ruleth alike the courses of the stars and the ways of men.